Two Lectures

ON

THE ANÆSTHETISATION OF SO-CALLED "DIFFICULT" AND "BAD" SUBJECTS.

Being the Emeritus Lectures on Anæsthetics delivered at the London Hospital on Nov. 21st and Dec. 5th, 1902,

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ANÆSTHETIST TO HIS MAJESTY THE KING; CONSULTING ANÆSTHETIST AND EMERITUS LECTURER ON ANÆSTHETICS AT THE LONDON HOSPITAL; PHYSICIAN-ANÆSTHETIST TO ST. GEORGE'S HOSPITAL.

LECTURE II.[1]

Delivered on Dec. 5th, 1902.

GENTLEMEN,—I now propose to discuss the second class of bad subjects—those whose respiratory tract is in some way encroached upon or whose respiration is in some way hampered by pathological or other conditions.

As the vast majority of complications during anæsthesia are dependent upon some intercurrent asphyxial state the true nature of which is often not recognised, it follows that patients whose respiratory tract is encroached upon or whose respiration is in some way hampered are specially liable to give trouble to the anæsthetist. It is, as a rule, more important in examining a patient before an anæsthetic is administered to test the freedom with which respiration takes place through the nose than to listen to the heart. The healthy-looking schoolboy with enlarged tonsils and post-nasal growths, the strongly-built youth with fixity of the lower jaw from rheumatoid disease of its articulation, the soldier suffering from an extensive sub-lingual abscess and the drayman with angina Ludovici are examples of this class. I may also include patients with large glandular or other tumours of the neck, which either interfere with the mobility of the lower jaw or press upon the trachea, those affected by septic or diphtheritic pharyngitis, tonsillitis, or laryngitis, and those with any morbid state of or about the lower respiratory passages rendering respiration difficult.

In dealing with patients of this class all asphyxiating anæsthetics or methods of administration are to be avoided. Thus, to a patient with angina Ludovici, pure nitrous oxide may be a direct poison; whilst the use of ether by means of a narrow-bore inhaler may lead to serious or even fatal effects when the trachea is pressed upon by an enlarged thyroid. Speaking generally, chloroform or a mixture of chloroform and ether must be given to patients of this group, although ether is, in exceptional circumstances, preferable. Cases of angina Ludovici are best treated by the slow administration of a mixture of chloroform and ether with plenty of air, only moderate anæsthesia being advisable in the worst cases. As regards operations for goitre, chloroform is the only permissible anæsthetic. There are certain of these cases in which bronchial secretion is more or less imprisoned below the obstruction and in these it may be impossible to secure deep anæsthesia without danger of the imprisoned mucus closing up the flattened trachea. Where there are general bronchitis, tracheal stridor, orthopnœa, and some lividity it may be hazardous to administer chloroform even in analgesic doses. It is in certain cases of this group, in which cyanosis and respiratory distress exist before the administration, that the use of oxygen with the anæsthetic is to be recommended. Thus, in several bad cases of empyema—and particularly in a case in which double empyema was present—I have administered oxygen in conjunction with ether with the best results. I need hardly remind you that the posture of the patient is very important in all cases of respiratory derangement. As a general rule the patient should be anæsthetised in the posture in which he breathes most comfortably and an endeavour should be made to move him as little as possible into other positions. When any change of posture has to be effected the moving should not be carried out during any struggling. As regards simple bronchitis and emphysema the administration is not, as a rule, attended by any great difficulty provided chloroform (the only admissible anæsthetic) be carefully and gradually given. Curiously enough these patients do well with a moderate anæsthesia, displaying little or no reflex movement even during such operations as lithotrity and abdominal section. I have on two occasions known a long administration of chloroform to an elderly patient with chronic bronchitis to be followed by a fatal increase in the bronchial affection, which fact seems to point to the danger, not perhaps always realised, of lengthy administrations in certain bronchitic subjects.

3. Patients who have been confined to bed for a considerable time owing to some constitutional disease are not, as a rule, bad subjects for anæsthetics. A deceased friend of mine, indeed, went so far as to say that he would sooner anæsthetise a moribund person than a healthy and powerful man. But it by no means follows because a patient is in a grave state of health that a smooth anæsthesia will result. Much seems to depend upon the type to which the patient belonged before his illness and the duration of the malady. When, for example, a vigorous man is suddenly seized with perforating appendicitis he may be a difficult subject to anæsthetise, even though he be in a condition of profound collapse, with cold extremities, a barely perceptible pulse, and a skin bedewed with perspiration; whilst the patient who is moribund from a chronic malady may be perfectly passive during a surgical operation, even though the conjunctival reflex has not been abolished. The collapsed patient from acute appendicitis may display inconvenient reflex movement even during comparatively deep anæsthesia. Similarly, acute cases of pleuro-pneumonia, going on to empyema, and requiring an operation, are more difficult than chronic cases, even though the general condition of the latter be very serious. A further parallel may be drawn between acute and chronic cases of intestinal obstruction, the management of which will be discussed when dealing with the fifth class of bad subjects. As regards patients suffering from morbus cordis, these are not bad subjects for anæsthetics provided the methods employed be suitable. As all asphyxial strain upon the heart should be avoided air-limitation must be practised with caution. Personally I consider the administration of pure nitrous oxide to be contra-indicated in the more advanced forms of heart affections, and I should not be surprised if future experience indicates that, even in normal hearts, the strain imposed by a full dose of this gas may sometimes be detrimental. As a general rule the C.E. or A.C.E. mixture produces good results. Occasionally in practice one meets with a patient with an abnormally slow pulse. I have notes of two cases in which such a pulse became so slow under chloroform that the defective cerebral blood-supply led to halting breathing, very much of the Cheyne-Stokes type. The treatment in such cases is to change from chloroform to the C.E. mixture or ether.

4. It is still customary to explain many of the difficulties of practice by the assertion that the particular patient was "very nervous." My experience, however, is that it is exceptional for mental disquietude to lead to any great difficulty. Very nervous subjects may hold the breath or breathe with violence, and in a few cases I have satisfied myself that certain eccentricities in the anæsthesia have resulted from the patient's nervous state before the administration. Large quantities of the anæsthetic may be needed for patients of this class in order to abolish reflex movement. The nitrous oxide-ether sequence is well suited to neurotic subjects. Chloroform is best avoided for inducing anæsthesia but it may be given after ether. Patients with nervous diseases may display peculiarities in breathing according to the part of the nervous system involved and recourse to artificial respiration may possibly be needed. Such cases are, however, so exceptional that they do not admit of consideration here.

Alcoholic subjects are notoriously difficult to anæsthetise; I have notes of a large number of these who have given me trouble. In some of the worst cases there has been a reliable history of the patient having drunk as much as a bottle of brandy or whisky a day, and one patient whom I anæsthetised at this hospital confessed to drinking six gallons of beer in the 24 hours. In such subjects as these enormous quantities of the anæsthetic may be required; the excitement stage is prolonged; it is difficult to prevent all reflex movement during operations; muscular rigidity tends to persist; and recovery of consciousness, even from deep anæsthesia,

[1] Lecture I was published in THE LANCET of Jan. 10th, 1903, p. 81.

rapidly takes place. In extreme cases of alcoholic indulgence nitrous oxide may be practically useless as an anæsthetic, at all events from the surgeon's point of view. I have, in fact, in one or two instances been obliged to resort to ether in order to obtain sufficient anæsthesia for a simple dental operation. The worst cases are those in which the patient, apart from the question of alcoholism, is himself a difficult subject.

I have been very interested in the influence which the excessive use of tobacco undoubtedly has in disturbing and modifying the usual phenomena of anæsthesia. Great smokers may be quite as difficult to anæsthetise as great drinkers. Repeated swallowing, hesitating and suspended breathing, the excessive secretion of mucus, inconvenient muscular rigidity, especially about the jaws and neck, obstructive stertor, dilated pupils, and exaggerated reflexes are common incidents in the anæsthetisation of these patients. So much anæsthetic may be needed to produce a proper degree of anæsthesia in an excessive smoker that the toleration may be erroneously attributed to alcohol. In two cases of which I have notes—one that of a dark, muscular man 45 years of age who had smoked 30 cigars during the three days preceding the operation, and the other that of a man of about the same age who "always had a pipe in his mouth except at meal times"—I was obliged to push the anæsthetic to an almost dangerous degree before I could obtain anything like a good anæsthesia. In both cases ether was taken so badly that I had to change to chloroform. In another case, that of an officer in the army who smoked to excess, I had somewhat similar difficulties coupled with asphyxial symptoms from jaw-spasm. But as this patient had given so much trouble to another anæsthetist that he (the anæsthetist) had had to deprive him of nine teeth before he could get him to breathe, my task was a comparatively easy one. One of the most difficult patients I have ever had to anæsthetise was a great smoker. He was a middle-aged man, a waterman, and an in-patient of this hospital. He had barely audible heart sounds and a slow pulse. He smoked "plug" tobacco. Ether was very badly borne and chloroform, to which I changed, produced no better result. Intense jaw-spasm, mucous rattling with expiration, cyanosis, and general rigidity combined to make the administration very difficult, and I am bound to confess that I was unable by any device to obtain an anæsthesia which satisfied me. Fortunately such cases are exceedingly rare. The intensity of the jaw-spasm in these smokers is interesting. It seems to suggest that by the suction, puffing, and other movements essential to the smoking of a pipe, cigar or cigarette some muscular hypertrophy takes place, the result being that during the stage of general muscular rigidity, which is usually marked in these subjects, considerable spasm of the muscles about the jaws and floor of the mouth occurs.

5 From a careful study of the preceding classes of difficult and bad subjects it will, I think, be clear to you that if in any given patient we find associated the characteristics of one or more of these four classes, our difficulties will be proportionately greater. With the object of making my meaning clear I have up to this point endeavoured to present to you pictures of patients who are difficult or bad subjects by reason of their having a single distinguishing feature or peculiarity. But in practice these pure types are not common. Thus, some of our greatest athletes have nasal obstruction; and a combination of a highly developed muscular system, a blocked nasal airway, and good teeth may readily give trouble unless precautions are taken. Young officers in the army, of athletic build, may by the excessive use of tobacco prove to be very unsatisfactory subjects even for nitrous oxide. The combination of muscular development, nasal obstruction, and excessive smoking will still further embarrass the inexperienced anæsthetist. When we come to add what I may term the alcoholic element the combination becomes even more unwelcome. But in all cases such as I have just mentioned you will find that by providing for, and maintaining a free air-way and by steadily administering large doses of ether till you attain the desired degree of anæsthesia you will overcome your difficulties. Powerfully built young men who have drunk very freely may require so much anæsthetic to abolish reflex movement that the spasmodic tongue retraction—which in certain subjects of this type takes place in deep anæsthesia—actually occludes the air-way and the anæsthetist may find himself in a dilemma. In order to maintain a free air-way the tongue must be drawn forward, whilst chloroform, the only possible anæsthetic, is freely given. When the type of your patient changes, so to speak, from the young, thin, and muscular to the young and fat, or young, fat, and muscular, and when such complications as nasal obstruction, good teeth, a receding lower jaw, alcoholic indulgence, and excessive smoking are present, considerable difficulties will be liable to arise. It is in such cases as these that the use of the nitrous oxide-ether sequence may be attended by trouble, more especially if no mouth-prop has been inserted before commencing the administration and if the bore of the inhaler be narrow. The best plan, as a rule, is to employ the C.E.-ether sequence or if the ether be badly borne the C.E.-ether-chloroform sequence. If the C.E. mixture or chloroform be used throughout it is difficult or impossible to avoid struggling. Should the anæsthetist especially wish to administer nitrous oxide and ether a mouth-prop must be inserted and a wide-bore inhaler used, in which circumstances a fairly good result may generally be relied upon. Somewhat allied to patients of this type are middle-aged or elderly men who, from having eaten and drunk too freely and from having lived sedentary lives, have become corpulent and breathless on exertion. Such patients are not, so far as my experience goes, quite so difficult to manage as are younger subjects. Speaking generally, the best line of treatment to be adopted is gradually to administer the C.E. mixture, to be most careful to provide for and to maintain an oral air-way throughout, repeatedly to withdraw the anæsthetic during the stage of rigidity, and to substitute chloroform for the mixture should indications of ether irritation present themselves. The most critical juncture with such subjects occurs during the stage of rigidity and it may be necessary at this stage to adopt one or other of the numerous little devices which are available for preventing an undesirable suspension of breathing in order to avert any risk of syncope. Finally, we come to the worst subjects of all—those who not only present difficulties by reason of their belonging, when in their usual state of health, to difficult types, but who present, in addition, difficulties dependent upon some recently acquired and grave constitutional disorder. Thus, when a stout breathless old man who has smoked and drunk to excess and has for years suffered from nasal polypi is seized with symptoms of acute intestinal obstruction, no worse subject can be imagined. The issue of such a case depends largely on the skill of the anæsthetist. One of the most important points in these anxious cases is the posture of the patient. The nearer he can be brought into the lateral position the better, for in this position the ejection of the contents of the stomach will be comparatively free from risk. It is often possible, by placing pillows under one shoulder, to obtain the advantage of the lateral posture without interfering with the position of the pelvis. The mouth should be kept open by a Mason's gag, mucus or other fluids within the fauces should be repeatedly sponged away, and a moderate anæsthesia obtained. Generally speaking, an ether and chloroform mixture, suitable to the particular case, should be employed. As another instance of an exceedingly bad subject I may mention the alcoholic man of corpulent or burly build, who, having been seized with pleuro-pneumonia, requires an anæsthetic for an operation for empyema. In certain desperate cases of this class the administration of even a small quantity of chloroform may prove fatal, the patient dying, not from the toxic effect of the drug, but from cardiac syncope dependent upon the slight additional embarrassment of breathing incidental to the excitement stage. Although apparently opposed to all recognised principles I hold that in such cases the safety of the patient is best consulted by employing the A.C.E. or C.E. mixture for the first half minute, then substituting for it ether on a semi-open inhaler, and subsequently keeping up merely a light anæsthesia. One of the worst subjects I ever had to anæsthetise was a youth 17 years of age who had been an imbecile from birth, and who had, prior to the operation at which I assisted, suffered from diphtheritic paralysis and mitral disease. He now had pyopneumothorax and was sitting up, with a very feeble pulse and in a state of much dyspnœa. I adopted the treatment to which I have just referred and free pleural drainage was successfully established. As instances of similarly desperate cases I may mention patients who, being originally bad subjects, have become worse subjects by reason of such conditions as angina Ludovici, septic pharyngitis, tonsillitis, laryngitis,

&c. These cases must be treated on the lines already indicated.

6. The last class of difficult and bad subjects comprises those who give trouble to the anæsthetist without any discoverable cause. As our clinical knowledge increases these cases become more and more exceptional and it is to be hoped that as time goes on the class will cease to exist altogether. I have notes of a few of these interesting and exceptional cases and they certainly seem to my mind to warrant the retention of the term "idiosyncrasy." As an example I may mention that I have known certain peculiar and highly inconvenient nervous phenomena occurring in connexion with the use of nitrous oxide to be displayed by more than one member of a family. Unfortunately the opportunities one has of investigating these peculiar cases are very limited, whilst the history obtainable from patients or their friends is often unreliable. I regret to say that the data at my disposal are not sufficient to enable me to give you any useful information concerning patients of this class.

In concluding these imperfect lectures in which I have attempted to direct your attention to an aspect of the subject of anæsthesia which has not perhaps attracted sufficient notice, let me say that I hope I have not given you the impression that every case with which you will have to deal will be a difficult one. Difficult and bad subjects are comparatively rare, but when considered in the aggregate they admit of some such classification as that which suggested itself to me. I can only add that if I have helped you to understand any exceptional cases that may already have come under your notice, or if I have succeeded in fixing within your memories mental pictures of those subjects who, when you leave your hospital and go into practice, are most likely to give you trouble, I shall feel that the time that has been so pleasantly spent in preparing and delivering these lectures has not been altogether wasted.

A Clinical Lecture
ON
THE INTRACRANIAL COMPLICATIONS OF SEPTIC EAR DISEASE.

Delivered at the Medical Graduates' College and Polyclinic on June 15th, 1902,

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GENTLEMEN,—I propose to consider with you to-day the intracranial complications following suppurative or septic inflammations of the middle and internal ear and mastoid antrum. It is unnecessary to speak of the important relations which these structures have with the meninges, the lateral sinus, and the brain itself. This being a clinical lecture I shall make no apology for illustrating my remarks as far as possible by reference to cases which have come under my care.

Pachymeningitis externa.—The first and least important complication to mention is pachymeningitis externa—a thickening of, with formation of villous granulations on, the external surface of the dura mater. It is most common over the sigmoid bend of the lateral sinus and is frequently associated with the formation of pus between the bone and dura mater. I observed this change over the anterior surface of the temporal bone in a recent case of temporo-sphenoidal abscess. It may be regarded as a danger signal. A similar change may exist on the inner surface of the dura mater and thus septic organisms may pass to the lymphatics of the pia mater and brain leading to meningitis or cerebral abscess.

Extradural abscess.—The formation of pus between the skull and dura mater is much commoner over the sigmoid sinus, but may exist over the roof of the tympanum or antrum or over the internal auditory meatus. When in suppurative mastoiditis the antrum is dilated it frequently happens that the thin partition between this cavity and the lateral sinus is absorbed, the sinus being then bathed in pus. I have met with this condition many times and have been surprised at the slight character of the symptoms, probably because the pus is not shut up under considerable pressure. Last year I performed mastoidectomy on a lady the day after she had travelled from Gloucestershire. The mastoid antrum was greatly enlarged and filled with pus, and the lateral sinus exposed for from one to one and a quarter inches, yet her only symptoms were severe pain over the mastoid region and side of the head, moderate pyrexia, and somewhat profuse otorrhœa. She made a rapid recovery without further complication; and this is the usual sequence.

The symptoms associated with suppuration around the sigmoid sinus when its bony walls are intact are somewhat more severe, yet not so marked as might be anticipated, seeing that pus is confined under pressure in immediate contact with one of the largest venous channels in the body. Of five cases the notes of which I have before me in not one was a *rigor* observed. The usual symptoms are those of acute mastoiditis—local pain, hemicrania referred to the posterior half of the side of the cranium and sometimes located just below the parietal eminence, perhaps tenderness on percussion or local œdema behind the auricle, otorrhœa or history of recent otorrhœa, and finally moderate pyrexia. In addition there are sometimes severe constitutional disturbance with vomiting, giddiness, and mental confusion. In one patient, a Post Office sorter, aged 23 years, who was under observations 12 days before the operation, the symptoms were of such a character as to suggest cerebral abscess. He had otorrhœa on the left side when a boy. This stopped and recommenced a fortnight before he came under observation. A week later he complained of giddiness and confusion in recognising addresses on letters, with occasional unsteadiness of gait. Finally, vomiting came on with the usual symptoms of acute mastoiditis. On admission haziness of the discs was observed, but no actual neuritis. The temperature was subnormal to 99° F., and the pulse was from 64 to 67. He recovered completely after mastoidectomy and evacuation of a considerable amount of pus around the sinus.

The presence of pus around the sigmoid sinus fortunately very frequently reveals itself after the mastoid antrum is exposed by the exudation of pus from a small channel opening on the posterior wall of the mastoid antrum. It is probably a small venous channel and if followed up with the gouge or burr leads directly to the purulent collection. I have repeatedly been led to discover an extradural abscess by its means. An extradural collection of pus above the anterior surface of the petrous bone may reveal its presence on examination with the otoscope by the dripping of pus through an opening in the roof of the attic into the tympanum. This symptom may also be present in temporo-sphenoidal abscess.

Treatment.—In all these cases mastoidectomy is required. A collection of pus around the sigmoid sinus can be readily evacuated by enlarging the opening in the temporal bone backwards in the direction of the base line. If it be situated above the tegumen it can be opened by enlarging the osseous cavity upwards in the direction of the superior wall of the bony meatus.

Thrombosis of the lateral sinus.—The deposition of clot in the sigmoid sinus most frequently follows the formation of pus around it or the growth of septic granulations from the mastoid cells through the bony partition which separates them from the sinus. Or it may result from the extension of a septic thrombus along small veins which pass from the tympanum and mastoid antrum directly into the lateral sinus. Lastly, it may rarely result from extension of a clot primarily originating in the superior petrosal sinus. The symptoms produced are general and local. The general symptoms are those resulting from breaking down and dissemination of septic clot and may be summed up as those of pyæmia superadded to those of acute mastoiditis—rigors, pyrexia with marked fluctuations of temperature, vomiting, with in some instances symptoms of cerebral disturbance. In the majority of cases the prominent symptoms are referable to the occurrence of septic embolism in the lungs. In others the septic intoxication manifests itself in profuse diarrhœa, meteorism, abdominal pain, extreme exhaustion, and a general condition which has been mistaken for enteric fever. Finally, the thrombosis may be complicated with meningitis, the symptoms of which mask those of the sinus lesion.

Local signs.—The only distinctive local signs are "cord-like" induration along the course of the internal jugular vein due to extension downwards of the clot and peri-phlebitis, and tenderness at the apex of the posterior triangle resulting from thrombosis or phlebitis of the posterior cervical veins which communicate with the lateral sinus. Œdema of the integument over the mastoid process is also said to be often present, but it probably is mainly due to the co-existing ostitis. It should be borne in mind that the discharge is prone to cease at the onset of thrombosis and if the case has only just come under observation, the surgeon may hold his hand in doubt if the case is really one of ear disease. Cases of otorrhœa and mastoiditis with intracranial complications are apt to be associated with quite insignificant local symptoms of inflammation, because many are instances of long-standing otorrhœa which has resulted in sclerosis of the mastoid bone. Consequently the antrum is deeply placed, covered often by a layer of sclerosed bone from three-quarters to one inch thick; it may be this circumstance which determines the extension of the septic process inwards instead of outwards. It is evident that the *characteristic* symptoms of sinus thrombosis are only present in the majority of instances when the disease has reached a stage at which treatment is almost hopeless. Our aim should be to recognise the disease before the clot has commenced to disintegrate. In four cases which I have before me this was accomplished. In all of them pus existed around the sigmoid sinus and was the cause of the thrombosis. Hence the symptoms may mainly be referred to it. In not one of the four cases was there a rigor. In three vomiting was a prominent symptom. In two there was drowsiness, in two there was incontinence of urine, and in two cases there was tenderness or pain along the course of the internal jugular vein. In any case, therefore, in which pyrexia, with vomiting, drowsiness, or incontinence exists the lateral sinus should be exposed. This can be done in the manner mentioned in describing the treatment of extradural abscess around the sinus. A clot can be recognised readily by palpation. Where doubt exists as to the presence of clot the sinus should not merely be punctured with a trocar but should be opened. Free bleeding follows, but is effectually stopped by a compress of gauze. When a clot is clearly present the internal jugular vein should be ligatured first and subsequently the sinus should be incised and the clot removed. If it be breaking down it may be necessary to flush the jugular vein by injecting from the skull into the wound in the neck. The patients in all of the four cases above mentioned recovered excepting one who died from meningitis.

Meningitis.—Septic lepto meningitis is so common that I need not trouble you by detailing the symptoms. It may, however, be of interest to quote cases of the rarer forms of meningitis sometimes associated with ear disease.

Serous meningitis.—The following is an example of serous meningitis with internal hydrocephalus. The patient, a girl, aged two years, was admitted to the medical wards of the London Hospital on July 19th, 1895, with retraction of the head, which had existed for two weeks, vomiting, and sore-throat. The pupils and fundi were natural. On August 1st an offensive discharge from the nose was observed. On the 5th I was asked to examine the eyes and found the left disc normal and the right somewhat blurred. The child appeared better and the retraction of the head had disappeared. On the 10th discharge from the right ear was first noticed, with slight tenderness over the mastoid. The head was more retracted and the temperature was normal. On the 16th she was transferred to the surgical side, when the right mastoid was opened and pus was found. The membranes and brain were then explored with a negative result. The child died on the 20th and at the necropsy the lateral ventricles were found to be enormously distended with clear fluid. The choroid plexuses were thickened and flocculent. There was no evidence of purulent meningitis or tubercle. This case occurred seven years ago. At the present time I should have completed the operation by tapping the lateral ventricle and on finding excess of fluid might have established a permanent drain between the ventricular cavity and the subdural space, after the manner suggested by Dr. Leonard Hill's researches and carried out by Dr. Sutherland and Mr. Watson Cheyne.

Posterior basal meningitis.—The prominent symptoms of this condition are headache, vomiting, rigidity or contraction of the muscles of the back of the neck, leading to retraction of the head, and convulsions. Although the disease often runs a very chronic course optic neuritis is absent in the majority of cases (Barlow and Lees). The lesion consists, as a rule, in a serous or sero-purulent exudation at the posterior part of the base of the brain, the inferior surface of the pons and cerebellum, and the fourth ventricle. Internal hydrocephalus often results from matting of the membranes over the floor of the fourth ventricle and may be indicated in infants by bulging of the anterior fontanelle. The clinical details of this affection are well illustrated by the following case.

Purulent otitis media complicated with chronic basal meningitis.—A boy, aged 12 years, was admitted under the care of my colleague, Dr. A. E. Sansom, on March 27th, 1897, with a history of headache, vomiting, and diarrhœa for 14 days. The vomiting continued every day except when he lay quite still, but the pain in the head was the chief trouble. The child was extremely apathetic and drowsy and the temperature was only slightly raised. On March 29th slight purulent discharge from the right ear was noticed; and a history of previous otorrhœa on the same side was obtained. The extreme drowsiness, headache, and vomiting, with absence of pyrexia, suggested abscess of the brain. There was no definite optic neuritis but the discs were a little pink and their margins were slightly blurred. Operation was performed on April 3rd. The right mastoid antrum contained no pus, but there were suppuration of the middle ear and a perforation of the tegmen tympani. The lateral sinus, temporo-sphenoidal lobe, and cerebellum were explored with a negative result. A dura mater separator was also passed along the anterior surface of the petrous bone but no pus was evacuated. He did not vomit again until the fourth day after the operation and then only occasionally, but the general condition did not improve. Later, rigidity of the muscles of the back of the neck, with retraction of the head, developed and on April 27th, six weeks after the commencement of his illness, it was noted that the slight changes in the discs previously recorded had developed into distinct double optic neuritis. The temperature remained low, with occasional irregular rises, until April 22nd, when it became persistently high, and he died on May 2nd, seven weeks from the beginning of his illness.

The necropsy showed suppurative meningitis limited to the posterior part of the base of the brain. There is little doubt that the meningitis existed before the operation and that it was secondary to the ear disease. It was, perhaps, first of the serous type, and the persistent high temperature latterly may indicate the onset of suppuration.

Time will not permit me to discuss the pathology of posterior basal meningitis. You will recall that Barlow and Lees have shown that the infection in the majority of cases reaches the brain by means of the ear. They suggest that in all cases the membrana tympani should be tapped in the early stage of the disease. If purulent otorrhœa be present it is quite clear that a complete mastoidectomy should be performed. Attempts, for the most part unsuccessful, have been made to relieve the internal hydrocephalus often present in this affection by exposing and draining the floor of the fourth ventricle. When marked intracranial pressure exists relief has been obtained by tapping the lateral ventricle.

Epidemic cerebro-spinal meningitis may closely resemble posterior basal meningitis due to ear disease. In the former Kernig's sign is present and in the latter absent except in those cases in which the meningitis has extended to the cervical portion of the cord. Lumbar puncture in cerebro-spinal meningitis yields a large quantity of fluid in which the bacillus intracellularis may be demonstrated. It should also be borne in mind that tuberculous meningitis with accidentally concurrent otorrhœa may easily be mistaken for meningitis due to septic ear disease. The following case so aptly illustrates this point that I will briefly quote it.

An infant, aged six months, was admitted to the Evelina Hospital with purulent discharge from the right ear, general convulsions, blurred discs, and complete paralysis of the right facial and of the right sixth nerves. Later there was some retraction of the head. It appeared probable that the facial nerve was paralysed owing to the ear disease and the sixth nerve from some basal meningitis. Mastoidectomy was therefore performed and pus was found. The membranes of the brain were incised. At the necropsy there was a little lymph at the base of the brain, a mass of soft yellowish lymph in the right Sylvian fissure, and the lateral ventricles were distended. The paralysis of the sixth and seventh nerves was, however, due to a small tuberculous tumour on

the posterior surface of the pons at the situation of the nuclei of origin of these nerves. There was also a cheesy nodule in the middle lobe of the cerebellum. It is probable that the meningitis was recent and of septic origin, the tuberculous formation being a coincidence. In another case in which my opinion was asked a child, suffering evidently with meningitis, had symptoms suggestive of temporo-sphenoidal abscess—i.e., otorrhœa on one side and paresis of the face and upper extremity on the opposite side. A diagnosis of tuberculous meningitis was made and this proved to be correct, the paresis being due to a mass of tuberculous granulations in the lower part of the Sylvian fissure.

Cerebral abscess.—This occurs in two situations in ear disease: the temporo-sphenoidal lobe and the cerebellum. Certain general symptoms are common to abscesses in both situations: vomiting having no relation to food, intense pain sometimes of a paroxysmal character, foul breath, rigors varying from slight chill to violent shivering, giddiness, and lethargy. The latter is one of the most important symptoms. The patient lies in a somnolent condition approaching that of coma, but can be roused, answers questions rationally, although the answer is delayed. There may be want of sustained attention. The temperature is usually characteristic. From the septic type which accompanies mastoid inflammation it suddenly falls to normal, and during the late hours of the night and early morning is often slightly subnormal. The pulse and respirations are generally slow, especially in large abscesses, but in all the examples (with two exceptions) of cerebral abscess that I have met with the pulse has been rapid, about 120, although the temperature has usually conformed to the characteristic type. Optic neuritis is present in the majority of cases. The following case illustrates some of the special features of abscess of the temporo-sphenoidal lobe.

A woman, aged 24 years, was first seen by me at the London Hospital at midnight on Feb. 20th of last year. Her history was that at Christmas the ossicles were removed from the right ear and two weeks before admission a polypus was destroyed by a surgeon at her own home. After the latter operation the temperature rose and she was supposed to have erysipelas. There were profuse discharge from the right ear and at times delirium, but neither vomiting nor rigors. Her condition on admission was as follows. There were lethargy and inattention to questions which appeared to be mainly due to the deafness, extreme œdematous swelling on the right side of the head, face, and neck, purulent discharge from the *right* ear, and slight right facial paresis. The pupils were equal and mobile; there was no optic neuritis. The knee-jerks were brisker on the left than on the right side. No paralysis of the limbs was observed. The pulse was 72 and the temperature was 101·6° F. Operation:—The mastoid antrum was opened in the usual way and a large accumulation of pus was let out from beneath the temporal aponeurosis and pericranium. There was no thrombosis of the lateral sinus, but pachymeningitis externa was observed on the dura mater covering the anterior surface of the petrous bone. The next day she was quite bright and talked readily. The improvement continued until the morning of the 23rd, when the pulse fell from 96 to 58 and the temperature suddenly to 97·4°. She had become extremely drowsy and I observed slight paresis on the left side of the face of the cortical type, the orbicularis oculi being unaffected. There was also marked weakness of the left upper extremity, the grasp of the left hand being five, while that of the right was 75. A temporo-sphenoidal abscess was diagnosed. A second operation was performed. The incision previously made was prolonged vertically upwards above the external meatus and a considerable portion of the squamous bone was removed with Hoffmann's forceps in the same direction. The dura mater, which bulged through the opening, was incised, and a large abscess was at once found by inserting a trocar. It was very freely opened, irrigated to remove sloughs of brain tissue, and a drainage tube was inserted. I suspected that there might be another abscess cavity in the neighbourhood and therefore inserted my finger into that which was found and passed a trocar into the brain substance in the neighbourhood but did not open the second cavity. The patient improved after the operation but on the 28th (three days later) symptoms of compression returned; the pulse remained slow and the temperature subnormal. Operation was performed a third time. The opening in the skull was again prolonged upwards for another two inches so that its upper limit was about two and a half inches above the upper margin of the bony meatus. A second still larger abscess was opened. The cavity extended inwards for at least two inches and was about two and a half inches in diameter. On the following day the mental torpor was much diminished, the grasp of the left hand was much stronger, the pulse was from 110 to 120, and the temperature was 99·2°. On March 10th the patient had steadily improved; the grasp of the left hand was 30 and the right was 70; left facial paresis was still present but lessening. The discharge from the abscess soon ceased and a hernia cerebri developed which sloughed for a time but ultimately became covered with healthy granulations. The discs remained quite clear. Her subsequent progress was only interrupted by the formation of a small collection of pus under the temporal fascia and she is now in good health.

In another case of right temporo-sphenoidal abscess in a man, aged 21 years, the symptoms were precisely similar—i.e., there were paralysis of the left face and paresis of the left hand and arm, also twitching of the right side of the face. Immediately before operation the pulse was 64 and the temperature ranged from 100° to 101° F. There was no optic neuritis, although the right disc was blurred. The subsequent progress of the case showed that septic inflammation had already extended to the lateral ventricle. The temperature rose to 103°, he became noisy and delirious with retraction of the head, and finally died three days after the operation. The right lateral ventricle contained purulent fluid and communicated with an abscess cavity in the posterior part of the temporo-sphenoidal lobe. Extending from the abscess cavity downwards was a channel which opened on the under surface of the temporo-sphenoidal lobe above the tegmen.

Paresis of the face and upper extremity on the opposite side, so often present in temporo-sphenoidal suppuration, is due to the abscess extending upwards or upwards and inwards and pressing either upon the cortex of the ascending central convolution or upon the nerve fibres as they pass from it, so that the face will be first affected, then the arm, while the leg escapes. Among other symptoms often present, and not existing in the cases above related, may be mentioned dilatation with immobility of the pupil on the same side and paralysis of the third nerve on the same side. Deafness on the opposite side from disturbance of the auditory centre has also been observed, and if the abscess be situated on the left side aphasia may exist from pressure upon the posterior end of the third frontal convolution. The patient as a rule lies with the limbs flexed and the affected side undermost, a position just the reverse of that observed in cerebellar abscess.

Cerebellar abscess.—The following case illustrates nearly all the typical features of this lesion. In August, 1900, I saw in consultation with my colleague Mr. Mark Hovell, an employé, aged 43 years, in the telegraph service abroad who had been sent home on account of acute ear trouble. He had noticed discharge from the *left* ear at intervals since the age of 14 years. About June 24th he began to suffer from cephalalgia and on August 7th he left his employment for London where he arrived in the following condition. There was extreme lethargy with irritability when roused; the breath was offensive; he lay on his right side and immediately turned over to that side when placed on his back. The pupils were of moderate size, sluggish, and there was distinct optic neuritis of both discs but most marked on the side opposite to the lesion. The grasp of the left hand (that on the same side as the lesion) was distinctly weakened but no alteration of the face or leg was observed and the knee-jerks were natural and the same on both sides. The temperature was 96·4° F., but the pulse was 120. Left cerebellar abscess was at once diagnosed. Operation was as follows. The evacuation of the abscess being the most important point the ear itself was left for a future procedure. The cerebellum and lateral sinus were exposed by applying a trephine one and a quarter inches behind the posterior margin of the meatus in the direction of the base line. There was a small collection of pus around the sigmoid sinus; the dura mater over the cerebellum was much bulged, extremely tense, and without pulsation. On inserting a trocar in a direction forwards and inwards an abscess was found containing four or five ounces of pus. The lateral sinus for some distance was thrombosed and its wall at one point was destroyed. The

internal jugular vein was first tied and the clot was subsequently removed. The discharge ceased on the third day after the operation and his mental condition soon become normal but for a time the optic neuritis progressed. Flame-shaped hæmorrhages, not present at the time of the operation, appeared in the right eye and later to a slight extent in the left. A fortnight after the operation (August 31st) the grasp of the left hand was still distinctly weaker than the right, showing that the paresis was not simply due to pressure downwards as Macewen suggests, but to encephalitis. When he had quite recovered from the first operation complete mastoidectomy was performed with success for the cure of his otorrhœa. He returned to work and remained well for a time, but a year after the operation he was stated to be suffering from melancholia.

Macewen divides the phenomena accompanying abscess of the brain into three stages: first, the initiatory stage; secondly, that of the fully formed abscess; and, thirdly, the various terminations of the affection when uninterrupted by treatment. The above case was seen in the second period. The first or initiatory period is rarely observed by the surgeon and therefore a reference to the following case which I watched throughout may be of interest.

On June 30th, 1898, I saw a girl, aged 14 years, with Dr. Brodribb and Dr. Christopherson. Three weeks previously she went to the seaside suffering from tonsillitis which was followed by earache and otorrhœa on the right side. The temperature was at first of a septic type, but five or six days before I saw her it fell, varying between 97·5° and 100° F. There was extreme pain on the right side of the head and for the last three days she had occasionally vomited, had also been drowsy, and on the 29th she became distinctly lethargic and only spoke when roused. On the 30th the mastoid antrum was opened and was found to be much dilated and filled with pus. The sigmoid sinus was normal. On July 1st vomiting had ceased and there was distinctly less drowsiness. She answered questions and conversed freely. Her temperature was 100·5°. On the 6th, as the discharge from the ear still continued to be profuse, the opening into the mastoid antrum was continued into the middle ear, the attic was exposed, and the ossicles were removed. On the 10th the patient's general condition was good; there was no headache or vomiting. But on ophthalmoscopic examination the right disc was found to be distinctly swollen and striated. Slight blurring of the discs had previously been observed. On the 20th the temperature had been normal for the last five days. Her general condition was good and she got up. On the 29th and 30th she was up and appeared to be quite recovered, but on the 31st she was attacked with severe intermittent headache over the right occipital region and vomited several times. Vomiting and paroxysmal exacerbations of severe pain continued and I saw her again on August 4th. There was neither paralysis nor alteration of sensation; the knee-jerks were normal. The optic neuritis had progressed and was marked on both sides. She had also on one or two occasions had incontinence of urine and was wasting. The temperature had been low since July 16th and the morning temperature was often 97·8°, but the pulse was 120. I operated again and found a large abscess in the right cerebellum. From that time she rapidly recovered, although, as in the former case, the optic neuritis progressed for a time but ultimately completely cleared up and in September of the same year I found that with suitable glasses her vision in each eye was $\frac{6}{6}$.

In a third case, that of a girl, aged 16 years, with right otorrhœa, there were absolutely no localising signs. The knee-jerks were feeble and sensation was normal. It is remarkable that in this case the temperature varied from 101° to 103° F. and just before the operation was 102°. There was no vomiting, headache, or lethargy, although she had one rigor the day before the operation. The brain was explored owing to the existence of progressive optic neuritis, the patient being also evidently ill. A few drops of pus were let out from the right lateral lobe of the cerebellum. This patient also recovered, making four successive cases of cerebral abscess which terminated favourably.

My first case of cerebellar abscess, however, which occurred in 1896, died a month after the abscess was opened from the formation of another abscess in the neighbourhood of the first and meningitis. The relapse took place while I was away on my holiday and no attempt at further exploration of the brain was made. I am therefore able to record six cases of cerebral abscess, four of which recovered. One of the fatal cases was hopeless from the first owing to involvement of the lateral ventricle.

The typical symptoms of cerebellar abscess when localising signs exist are well illustrated by the first case related. The rotatory movements towards the opposite side were shown by the patient constantly turning in bed so that the side of the lesion was uppermost. The paresis of the upper extremity on the same side was also marked. This is by no means a common symptom in cerebellar abscess, although in the past it may often have been overlooked. It was present in only one of my four cases. Of 100 cases analysed by Acland and Ballance there was paralysis of the limbs on the same side five times and on the opposite side twice. In some instances there are muscular rigidity and convulsions on the same side. The upper extremity may be affected alone or together with the lower extremity, the latter being usually involved to a slighter degree. The knee-jerk is often exaggerated on the same side. Sensation is never affected.

Some difference of opinion exists among experts as to the cause of the paresis. The view generally entertained is that the cerebellum augments the power of movements originating in the cerebral hemisphere of the opposite side. This was suggested by Rolando and confirmed by Luciani, who terms the condition of the limbs parasthenia. After ablation of one half of the cerebellum, the prominent symptoms are weakness, tremor, and, at first, spastic rigidity of the limbs on the same side, tremor of the muscles of the trunk and neck, and conjugate deviation of the eyes towards the opposite side. The animal falls towards the weakened side with the side of the lesion undermost. Further, the cerebellum is the organ which receives and reflexly acts on sensations derived by means of the "muscular sense," which supports the tonus and coördinates the innervation of the muscles of the skeleton. It is the derangement of these functions which is mainly responsible for giddiness. Macewen, however, believes that the paralysis results from pressure exercised on the pyramidal tract after its decussation. He says: "The normal cerebellum passes downwards beyond the foramen magnum, and, under pressure from the abscess, would probably extend further into the spinal canal, so that the upper part of the cord may actually be pressed on." He also suggests that the paralysis occasionally observed on the side opposite to the lesion may be due to pressure by the abscess upon the pons on the same side.

Paralysis being rare in cerebellar abscess, it is therefore of great importance to watch for other indications. In the early stage vertigo and staggering may be noticed and the patient may fall to the side opposite to the lesion. Severe pain, often paroxysmal, is experienced over the corresponding occipital region. Vomiting is intense and optic neuritis is usually present and well marked. There is often conjugate deviation of the eyes to the opposite side; it was noted in two of my cases. In doubtful cases of abscess approaching the "latent" variety the discs should be constantly watched and due weight must be given to emaciation and incontinence of urine. These symptoms were of much value to us in deciding on an operation in the second case related.

It has been suggested by McBride that in cerebellar abscess septic organisms travel from the *internal* ear to the posterior surface of the petrous bone and thence to the cerebellum. The labyrinth having been destroyed a tuning fork is not heard on the affected side, and this circumstance constitutes a diagnostic symptom of cerebellar abscess. There is, however, evidence to show that in some instances septic infection travels by means of the sigmoid sinus and thence to the cerebellum. In one of my four cases of cerebellar abscess there was suppuration around the sigmoid sinus and also thrombosis. Further, in some cases recorded bone conduction was present. McBride's sign is therefore only of diagnostic value when bone conduction is absent. The presence of conduction does not exclude the cerebellum. Optic neuritis is more constant and marked in cerebellar than in temporo-sphenoidal abscess. It is present in the former in 20 per cent. of cases (Acland and Ballance). In neither of my cases of temporo-sphenoidal abscess did any material change of the disc exist. It has been statedthat in cerebellar abscess the optic neuritis is more intense on the side of the abscess or is only present on that side. In two of my cases it was more intense on the same side and in a third on the opposite side.

Statistics concerning the relative frequency of temporo-sphenoidal and cerebellar abscess are contradictory. Of 91 cases collected by Körner 62 were cerebral and 29 cerebellar. On the other hand, of 33 cases collected

from St. Thomas's Hospital and the Hospital for Sick Children, Great Ormond-street, by Acland and Ballance 11 were temporo-sphenoidal and 24 cerebellar. In the first set of statistics, therefore, cerebral abscesses are twice as frequent as the cerebellar, and in the second set the reverse existed. Further, Körner's statistics show that cerebellar abscesses are rare before the age of 10 years and relatively common in the second and third decades, especially the former; whereas the statistics of the Hospital for Sick Children show that in six cases occurring during the last 35 years four were cerebellar, and all the patients 10 years of age or under. Two only were temporo-sphenoidal, the ages of the patients being 10 and 11 years. The statement generally accepted that abscess from ear disease is twice as frequent in the cerebrum as in the cerebellum therefore requires investigation if not revision.

In dealing with the diagnosis of the group of diseases just described it is only possible to fix upon types. The lesions are often combined as shown by the cases related. A sinus thrombosis may be complicated with meningitis or with cerebral abscess; or again, abscess with meningitis. The more striking and critical symptoms of meningitis will then predominate. Unfortunately, in many cases the conditions existing can only be arrived at by systematic exploration of the sinus, meninges, temporo-sphenoidal lobe, and cerebellum. This procedure is usually the sequel to mastoidectomy and may be carried out by prolonging the mastoid opening backwards in the direction of the base line for a distance of an inch to an inch and a quarter behind the posterior margin of the meatus and then removing bone with Hofmann's forceps in a direction upwards and forwards to expose the temporo-sphenoidal lobe and downwards and backwards to expose the cerebellum. The presence of abscess is usually indicated by bulging of the dura mater with absence or diminution of pulsation. If nothing be found and symptoms of intracranial pressure exist, the operation should be completed by tapping the lateral ventricle with a fine trocar. In those cases of abscess where localising symptoms are present the lesion may be approached by trephining directly over the abscess. It is of great importance to open the abscess freely and to remove by flushing the sloughs of brain tissue which are commonly present. In flushing the cavity due precautions should be taken to allow free exit for the fluid injected. More than one abscess cavity may exist or a second may form later.

Let us give all honour to the pioneers in this department of surgery whose insight and enterprise have enabled us to treat these formerly fatal affections with something approaching satisfactory results. It remains for us to study in detail the fields which they have opened up.

In conclusion, gentlemen, permit me to thank your council for the honour which it has conferred upon me in requesting me to deliver this lecture and yourselves for the indulgent attention which you have accorded to me.

A Lecture
ON
CHRONIC OBSTRUCTION OF THE CÆCUM AND ASCENDING COLON.

Delivered before the Sydenham Medical Society on Nov. 20th, 1902,

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GENTLEMEN,—In a paper published in the *Clinical Journal* of June 5th, 1901, entitled "Moveable Kidney," I drew attention for the first time to a condition of the cæcum and ascending colon which is not infrequently associated with moveable kidney and which results from chronic constipation. I make no apology for again calling attention to the matter since its recognition is of vital importance and the frequency of its occurrence is most striking. Inflammation of the appendix is by no means an uncommon complication of the damming up of fæces in the cesspool of the intestinal tract produced either by fæcal matter being driven into the appendix or by obstruction to the free exit of its normal secretion which is probably formed in excess owing to its functions being exaggerated by the irritation or even inflammation of the cæcum and by swelling of its mucous membrane.

The condition to which I wish to call attention is an interference with the free passage of the intestinal contents through the hepatic flexure. This practical obstruction is brought about by the development of a mesentery which is attached to the outer surface of the cæcum, ascending colon, and hepatic flexure. Should the cæcum become at all distended its movement in an inward and upward direction brings about such a kink in the hepatic flexure as to render the passage of fæces through it exceedingly difficult and sometimes impossible, in which latter case it produces symptoms of acute intestinal obstruction. It may occasionally happen that the cæcum passes sufficiently upwards and inwards to produce what is called a volvulus, rotation taking place around the general axis of the new mesentery and of the meso-cæcum and meso-colon. In order to render the description as clear as possible I have attempted to elucidate it by a diagram: Fig. 1 represents the cæcum,

FIG. 1.

Represents the cæcum, ascending colon, hepatic flexure, and commencement of the transverse colon.

ascending colon, hepatic flexure, and commencement of the transverse colon. The appendix and end of the ileum are seen. The mesentery is indicated to the left of the cæcum by linear shading which represents the direction in which it exerts traction. The marks on the front of the ascending colon are bridles formed by the shortening up of the longitudinal fibres. These are so marked in some cases as to require to be partly divided in order to restore the colon and cæcum to their normal position and their capacity for performing their functions efficiently. A little consideration of this state of affairs shows that the new mesentery is developed partly with the object of supporting the loaded cæcum in the erect posture of the trunk and partly to obviate its excessive inward displacement and the formation of a volvulus. The mesentery is strongest at its upper part where it is reflected from the surface of the posterior abdominal wall external to the kidney and from that organ as well. This relationship of the mesentery at its point of greatest traction to the kidney and the ilio-hypogastric, ilio-inguinal, and last dorsal nerves is one of considerable importance clinically. Running in the mesentery are numbers of blood-vessels some of which may be sufficiently large to require the application of a ligature before division. The examination of the connexion of the new mesentery with the large bowel explains how it is that in the recumbent position the obstruction produced by the kink is relatively small as compared to the mechanical disability which exists in the erect position and especially when the cæcum is loaded.

As one would expect the chronic obstruction of the flexure

results in a progressive distension and hypertrophy of the cæcum. Because of the intimate fixation of the colon to the kidney and to the abdominal wall outside it and to the nerves in that situation the pain felt along the distribution of these nerves and the tenderness on pressure below the last rib may be more typically renal in character than they are in the case of stone in that organ. Before I recognised this condition I, like many others, had frequently cut down upon the right kidney, which had given all the symptoms of stone except blood in the urine, and had been disappointed to find nothing although the kidney had been effectually cleared and its interior and the ureter thoroughly examined. One was however, puzzled, and also not a little pleased, to find that after this operation the patient usually lost all or most of the pain and that this more or less complete freedom from pain continued in some cases indefinitely. In a number of instances it recurred after an interval of time. From a careful study of these apparently renal cases it became obvious that the symptoms were due to obstruction of the colon by adhesions and not to any affection of the kidney and that the freeing of the kidney from its surroundings released the tense omentum from its posterior attachment and helped to relax the kink in the colon by displacing the peritoneal adhesions from the posterior abdominal wall. Thus the operation unwittingly restored to the colon greater freedom to the passage of its contents. Later, if constipation still continued the adhesions reformed and again drew upon the flexure and the pain and mechanical disability returned.

I am certain that in a large proportion of cases of so-called appendicitis the primary factor in the production of inflammation of this structure is obstruction of the hepatic flexure producing the consequences which I have just now described and that the trouble in the appendix is merely a secondary manifestation and should be treated as such should operative measures be adopted. This explains the occurrence of appendicitis in cases of recurring or chronic constipation and the advantage that is very frequently gained from emptying the cæcum by free purgation on the first onset of trouble about the appendix. It also shows the cause of the pain which so often remains after the mere removal of an appendix and the necessity not only of excising a diseased appendix but also of dividing freely the mesentery and liberating the hepatic flexure which in these cases is bound down into the upper and back part of the abdominal cavity. It is, therefore, quite evident that in removing the appendix the surgeon too often carries out only a portion of the necessary surgical procedure. In not a few cases the surgeon removes an appendix which is apparently quite normal and he satisfies himself as to the justifiability of the operation by believing that between attacks the appendix may be perfectly healthy. I do not say that this may not uncommonly be the case, but when it is it indicates that the trouble is due chiefly to the obstruction at the hepatic flexure which should be treated medically or surgically, and that excision of the appendix itself is unnecessary and of the nature of a luxury. I am convinced that a considerable proportion of cases in which the patient complains of pain and tenderness in the right iliac region are not appendical at all, but come under the category of those indicated by the title of this paper.

The symptoms which result from obstruction at the hepatic flexure vary within very wide limits. While in one extreme complete acute intestinal obstruction may result, occasionally complicated by the twisting of the colon upon the new mesentery forming a volvulus, in the other extreme we have cases with pain or uncomfortable sensation along the last dorsal, ilio-hypogastric, and ilio-inguinal nerves with dragging in the loin and tenderness on pressure or on percussion immediately below the last rib posteriorly and variable tenderness on pressure over the cæcum which may be felt to be full and its walls to be thickened. Occasionally the patient complains of some disturbance of the bladder in the onset of an attack of pain. These symptoms all suggest some renal trouble. In other cases the patient complains of much fulness and distension of the cæcal region often accompanied by a considerable amount of tenderness, rendering it impossible to bear pressure or to wear any tight garment in that situation. Or, again, the attacks of pain and tenderness may be so severe as to be associated with vomiting. The assumption of the recumbent posture and free purgation generally relieve them. The cæcum is left sore and tender for some time after the attack and this is associated with much disturbance of the gastro-intestinal tract. This condition may recur at intervals for many years and I have operated for it in patients of advanced years whose life had been made uncomfortable for a very long period of time and who obtained complete relief from the freeing of the anchored flexure. Some of them had been regarded as suffering from some appendical lesion and operation for the removal of this structure had been advised. Any of these conditions may be complicated by an attack of inflammation of the appendix. I have frequently had to operate upon patients in whom the appendix, either inflamed or not, had been removed without benefit to the sufferer, and I have found the hepatic flexure obstructed in the manner described and have divided the mesentery and freed the hepatic flexure and have permanently relieved the patient of the painful symptoms. Again, I have operated on cases and found this condition to exist where the symptoms were ascribed by competent observers to disease of the appendix which was perfectly healthy. If what I have observed be true the habit that has recently cropped up of removing the appendix through a very small incision must be injudicious in the extreme.

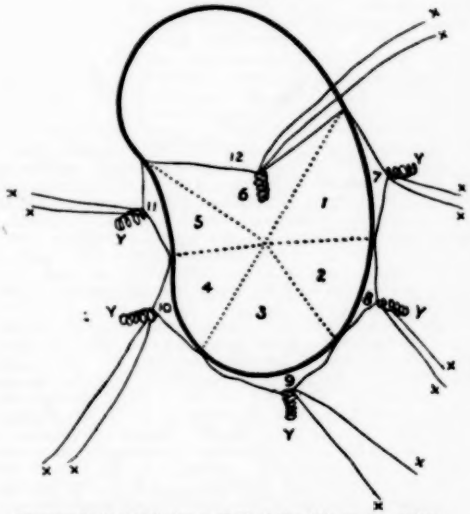
Before leaving this subject I would call attention to the symptoms of moveable kidney which not infrequently exist in patients suffering from a practical obstruction of the hepatic flexure. In such cases some difficulty may be experienced in determining whether the mobility of the kidney or the distension of the cæcum forms the chief source of the patient's symptoms, since the kidney when it gets upon the front of the innominate bone produces symptoms of pain and tenderness in the iliac fossa with dragging in the loin and occasional attacks due to obstruction to the exit of urine from it, symptoms which sometimes closely resemble those due to obstruction of the hepatic flexure. When both conditions co-exist it is sometimes hard to decide which should be treated first or whether both demand the attention of the surgeon. If the kidney is suffering materially in the performance of its functions from any surgical cause whatever there is associated with it a tenderness of the ureter which can be most readily observed where this duct crosses the brim of the pelvis. This symptom I have found to be of the greatest possible service in helping one to determine whether the condition was primarily or chiefly renal or not. It is such a marked characteristic that I have known cases in which surgeons have removed the appendix because the patient complained of a narrow tract of great tenderness when pressure was exerted on the abdominal wall in a line extending from the umbilicus to the anterior superior iliac spine, which is commonly called McBurney's line. I have known these patients to obtain no relief from their symptoms in consequence of this operation, their troubles returning during convalescence as soon as they ceased to assume the recumbent posture. In such cases I have sewn up the kidney which was moveable and given them permanent relief from their painful symptoms. I believe that this tenderness of the ureter which is associated very commonly with moveable kidney is responsible for many appendical operations. But I have never seen it called attention to before in this relationship and I would ask surgeons to consider the point more carefully in future before deciding to open an abdomen merely because the patient complains of great local tenderness when manipulation is made in this situation.

Since I first devised the operation for employing the capsule to fix the kidney immoveably to the posterior wall of the abdomen, which I described in the Transactions of the Clinical Society for 1892 in a paper entitled "A Case of Floating Kidney treated by a New Mode of Nephrorrhaphy," I have operated upon a very large number of cases of moveable kidney and in no single case have I known this organ to break away from its mooring. Up to that time the operation which had been adopted was to fix the kidney by buried sutures passed through its substance and the results of such treatment were openly acknowledged by very experienced surgeons to be unsatisfactory and uncertain in the extreme. Previously it had been the custom to use temporary sutures. I had myself examined many cases in which this operation had been performed without its materially affecting the mobility of the organ.

The method I described, and which I still employ, is the following. The kidney is thoroughly exposed through a slightly oblique incision in the loin and freed from any fat that may be present. As it projects from the wound the capsule is stripped from its lower two-thirds in the form of six triangles, as shown in Fig. 2, the bases of the triangles being left intact. In order to increase its resisting capacity

each is twisted up, when a piece of sterile silk twist is tied securely to it. The kidney is replaced within the abdomen in such a position that little more than half of it is exposed below the last rib. Needles are placed on each silk thread

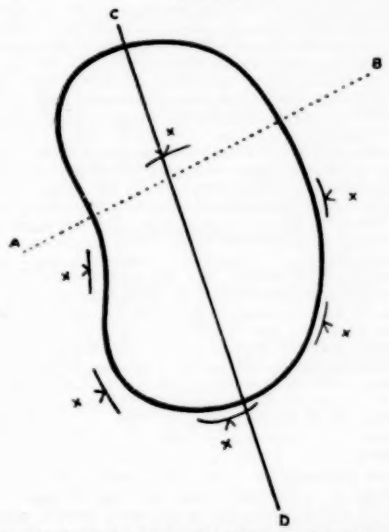
FIG. 2.



Represents the posterior surface of the kidney, the dotted lines showing the triangular areas (1, 2, 3, 4, 5, and 6) from which the segments of the capsule have been stripped (7, 8, 9, 10, 11, and 12). These are shown with their bases continuous with the kidney and twisted—Y representing the twisted portions, a silk suture (X) being attached to each.

and they are passed through the last intercostal space and through the abdominal muscles within an inch of their cut margins so as to bring the raw surface of kidney into apposition with the deep surface of the muscle wall freed from fat and fascia. When these sutures have been secured the resistance offered by the capsule is

FIG. 3.



Represents the conditions present after the incision through the muscular wall has been closed. The incision is indicated by the firm line C, D, crossing the kidney from above downwards and outwards. The dotted line, A, B, shows the margin of the thorax. The several sutures, X, connecting the capsular segments to the muscle wall, are seen emerging from it and tied securely.

sufficient to require the expenditure of a considerable amount of force to displace the kidney from the position in which it is fixed. The incisions in the muscle wall and skin are then brought accurately together. In this operation, as in every operative procedure requiring the burying of silk or other sutures, the surgeon should insure that no portion of ligature left in the wound be touched by the hand on any excuse whatever. I have performed this operation a very large number of times and I have never known the kidney to move from its attachment to the wall. On two occasions I have subsequently had to expose such a kidney (once to remove a stone), and the kidney substance and muscle wall were observed to be most intimately united.

When I have found any considerable hydro-nephrosis resulting from excessive mobility or from other cause I have employed a method which has been more successful than I ever ventured to expect. It has enabled me to save a number of kidneys which would in the ordinary course of events have been excised. I am strongly of opinion that the operation of excision of the hydro-nephrotic kidney has been undertaken much too frequently and often unnecessarily. I do not think that we should resort to such a serious measure until we have tried every other means possible to save the organ, following the same general principles that guide us in operations elsewhere.

The procedure I adopt consists in exposing the hydro-nephrotic kidney with its pelvis and a considerable length of the ureter by a very long oblique lumbar incision, defining its mode of entry into the dilated pelvis. If any vessel is present in this situation over which the ureter is hitched it is ligatured and divided, but such as a real cause of obstruction is in my experience very rare. An incision is made along the outer margin of the kidney into the dilated pelvis and if possible a fine gum-elastic catheter is introduced through it into the ureter, along which it is passed beyond the brim of the true pelvis. In most cases I have found it impossible to introduce the catheter into the ureter in this way, so I have opened the ureter by a vertical incision and passed the catheter through it into the pelvis of the kidney and out through the incision in this organ. The end of the catheter being in the ureter it is forced down beyond the incision in its wall for a considerable distance, when the opening in the ureter is accurately closed by means of a fine silk suture. The incision in the kidney is sutured, a piece of drainage-tube being left in the pelvis, and this, with the catheter, projects through the skin incision. The catheter is left in the ureter for six weeks or two months, during which time urotropin and sandal-wood oil are freely administered. By the use of these drugs the urine remains normal and the catheter does not become incrusted with any deposits of salts on its surface, but is perfectly sweet and clean when removed at the end of this time. The drainage-tube is taken away a few days later and the wound is closed.

SOME OBSERVATIONS ON CYANOSIS.[1]

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THE one constant factor in the production of cyanosis is diminution of oxygenation. This may be the result of respiratory affections which hinder the access of air or diminish the area of the aerating surface, or it may, on the other hand, be due to circulatory disorders lessening the amount of the blood flowing to the lungs. These latter affections furnish the most conspicuous examples of cyanosis, and in them the symptom is entirely produced by hindrance to the blood flow. Such is in reality the original conception advanced by Morgagni[2] and supported by numerous observers. The other view, apparently suggested by Corvisart,[3] that the condition is due to admixture of arterial and venous blood, is absolutely untenable, as in the vast majority of cases there is no possibility of such intermingling. In general terms the blood in cyanosis may be said

[1] Abstract of a paper read before the Royal Society of Edinburgh on Dec. 15th, 1902.
[2] De Sedibus et Causis Morborum, tome 1, p. 154, 1762.
[3] Maladies du Cœur, p. 281, 1806.

to be of high specific gravity—from 1070 to 1080. The amount of hæmoglobin rises considerably—often reaching above 100 per cent. The erythrocytes increase in number so as frequently to exceed 7,500,000 per cubic millimetre, while the leucocytes, although not so commonly altered in number, often reach such a figure as 12,000 per cubic millimetre. The increase of these constituents of the blood was first observed by Toeniessen.[4] Malassez[5] showed that there are more red corpuscles in the blood of the superficial than of the deeper parts of the body. Toeniessen and Penzoldt[6] suggested that this might be due to loss of fluid from the surface, while the interior receives a constant supply of fluid from the alimentary tract. Eight years ago,[7] in describing some observations on the Cyanosis of Congenital Heart Disease in THE LANCET,[7] an explanation of the manner in which cyanosis is produced was advanced by me. From that paper it seems advisable to quote the hypothesis to which my observations led me:—

> Starting with the conception that cyanosis is produced by obstruction to the circulation and venous stasis, the question now arises why this condition should be associated with an increase in the number of the blood-corpuscles. It is not only in the cyanosis of congenital lesions that the increase is found, but in all cases where cyanosis is really present on account of failure of the circulation. To this point Toeniessen and Schneider have particularly called attention, and of the accuracy of the observation anyone can convince himself by investigation of the blood. The work of Malassez seems to show that the blood in the superficial parts of the body contains a larger number of red corpuscles than that from the deeper layers, and Penzoldt and Toeniessen believe that this increase is caused by the loss of fluid from the surface, while the blood of the interior is constantly receiving fluid from the alimentary canal. Even if this be correct, it cannot be accepted as an explanation of the great increase in the number of the corpuscles found in cyanosis, as it would involve the postulate that in some cases where the number of corpuscles is nearly doubled the quantity of the fluids of the blood must be reduced nearly to one-half. Cohnheim's celebrated experiment of tying the crural vein of the frog, which is followed by a considerable increase of the corpuscles in the vessels, with the transudation of serum into the surrounding tissues, may be regarded as an explanation of the moderate increase in the cases accompanied by anasarca, but it has no special bearing upon cases of congenital cyanosis in which there is no drain of fluid into the tissues. It may possibly be held that in such cases the lymph vessels are unusually active and that the fluid constituents of the blood are as rapidly absorbed as they transude. Such an opinion can scarcely be seriously entertained. The backward pressure on the venous system which causes the transudation must tell on both terminations of the absorbents. It may be admitted freely that the increased pressure on the peripheral veins may tend to raise that impelling the fluids into the commencement of the lymphatics, but it must not be forgotten that an elevation of pressure in the great veins will hinder the return of the lymph by pressing upon the openings of the lymph vessels into the veins. It is probable that the increase in the red corpuscles may be to some extent compensatory in cases of cyanosis. To say this, however, is not enough; it affords no rational explanation of the process by which the increase is brought about. Nature does not work by such direct methods as would require to be invoked if the increase of the corpuscles were regarded as a simple compensatory change, balancing the diminished power of oxygenation. Compensation in valvular lesions, for example, is produced by the definite structural changes constituting hypertrophy, caused by increase of work, and compensation in cyanosis must have some reasonable explanation also. It seems to me that such an explanation may be found in a consideration of the functions of the red corpuscles under changed conditions. In venous stasis the corpuscles are insufficiently oxygenated, they cannot perform such an active part as oxygen carriers, and they cannot yield so much oxygen to the tissues. It must further be remembered that in cyanosis there is less metabolism in the tissues and therefore less waste produced. In a word, the functions of the corpuscles being lessened, the tear and wear which they undergo is reduced, and the duration of their individual existence increased. The number of the corpuscles must in this way be proportionately augmented, and this must lead to the numerical increase, as well as to the high percentage of hæmoglobin, until a balance is struck between the production and the destruction of the blood-corpuscles.

In some subsequent remarks upon this subject[8] it was frankly stated that this explanation could only be seriously entertained if the increase in the blood elements was found to exist throughout the different divisions of the circulatory mechanism—arteries, capillaries, and veins—but that the observations of many workers on the state of the blood in high altitudes were strongly in support of it.

The object of the present communication is two-fold: in the first place, to show what relationship exists between the conditions of the blood in the different divisions of the circulatory apparatus, and, in the second place, to indicate the results which have been obtained by the use of oxygen in cases of cyanosis. The two following cases are of interest from the first point of view.

[4] Ueber Bluthörperchenzählung bei Gesunden und Kranken Menschen, S. 29. 1881.
[5] Archives de Physiologie, ii. Série, tome i, p. 49. 1874.
[6] Berliner Klinische Wochenschrift, S. 45, 1881.
[7] THE LANCET, Jan. 5th, 1895, p. 24.
[8] Diseases of the Heart and Aorta, p. 211, 1898.

CASE 1.—A tradesman, aged 48 years, was under treatment in my ward for arterio-sclerosis with interstitial myocarditis. He was very cyanotic. The heart was considerably enlarged and there was escape at both mitral and tricuspid orifices. The radial arteries, like those throughout the rest of the body, were rigid, but the pressure was not high. There were œdema of the lungs and albuminuria, with great anasarca. The patient became maniacal and then passed into a comatose condition from which he was rescued by venesection. The opportunity was taken of obtaining two or three drops of arterial blood and the condition of matters was as follows. Artery: hæmoglobin, 125 per cent.; erythrocytes, 5,130,000; and leucocytes, 5980 per cubic millimetre. Vein: hæmoglobin, 135 per cent.; erythrocytes, 5,300,000; and leucocytes, 6250 per cubic millimetre. On the following day another drop of arterial blood was obtained and compared with that from the subcutaneous capillaries. The results were the following. Artery: hæmoglobin, 120 per cent.; erythrocytes 5,268,000; and leucocytes, 6100 per cubic millimetre. Capillary: hæmoglobin, 130 per cent.; erythrocytes, 6,830,000; and leucocytes, 11,620 per cubic millimetre. After this blood-letting the patient, by means of various cardiac remedies, rapidly recovered and went home in a few weeks with no symptoms of circulatory disorder and with blood practically normal.

CASE 2.—A pithead boy, aged 16 years, is at present under treatment in my ward for a group of symptoms which seem only explicable by the diagnosis of mediastinal pericarditis. On admission in September, 1902, the boy was deeply cyanosed. His heart was but slightly enlarged and had no abnormal sounds. The pulse was of low pressure and manifested in the most beautiful manner the features of the pulsus paradoxus. The patient had enormous enlargement of the liver and considerable increase in the size of the spleen, along with hydrothorax, ascites, albuminuria, and anasarca. The subcutaneous blood was frequently and regularly examined and showed an amount of hæmoglobin varying between 80 and 100 per cent., while the number of red corpuscles fluctuated between 8,000,000 and 8,800,000 per cubic millimetre, and the number of white corpuscles oscillated between 5000 and 8500 per cubic millimetre. On Oct. 20th a drop of blood was obtained from a small twig of the temporal artery and another from a small tributary of the temporal vein in order to compare with the blood in the capillaries, and the following results were obtained. Artery: hæmoglobin, 93 per cent.; erythrocytes, 7,000,000; and leucocytes, 6875 per cubic millimetre. Capillary: hæmoglobin, 93 per cent.; erythrocytes, 8,500,000; and leucocytes, 8500 per cubic millimetre. Vein: hæmoglobin, 115 per cent.; erythrocytes, 10,000,000; and leucocytes, 7400 per cubic millimetre. Under treatment by means of hydriodic acid, cardiac tonics, and diuretics internally, along with inunction of diluted lead iodide of mercury ointment, the patient has improved very greatly, and although the liver and spleen are still enlarged the other symptoms have almost entirely disappeared. Along with the disappearance of the symptoms the condition of the blood has come back practically to normal.

Now we learn from these observations that in cyanosis there is a general increase throughout the whole circulation in the amount of hæmoglobin and in the number of the erythrocytes, while the state of matters as regards the leucocytes is less constant. It seems to me that this universal, if not uniform, increase goes a long way in support of the explanation which I ventured to advance in the paper to which reference has already been made. The whole subject, however, requires experimental investigation and it was my intention to have entered upon a series of experiments—an intention which has been frustrated by lack of time. One of my friends has undertaken a research upon the subject and it is to be hoped that in the course of a few months definite information will be available. It is probable that the universally recognised increase in the number of the hæmocytes in those who live in high altitudes may be found to furnish an available opportunity of working out the problem.

Another point arises from the consideration of these observations. It has been said that the increase in the hæmoglobin and erythrocytes is universal but not uniform, and in this interesting fact lies the exposure of a possible source of fallacy in attempting to estimate blood conditions. No method based upon the assumption that the condition of the blood obtained from one part of the body can be regarded as an expression of its exact conditions throughout

the whole system can, for the future, be regarded as of scientific value.

The final part of this preliminary inquiry has been devoted to an attempt to ascertain whether the inhalation of oxygen has any beneficial effect upon cyanotic conditions. Up to the present time it must be confessed that no case which has been under my care has shown any effect upon the blood from the use of this method. Of the cases which have been so treated the following two may be taken as types of all the others.

CASE 3.—A miner, aged 39 years, has recently been under my care on account of chronic bronchitis, emphysema, and pulmonary collapse, with great displacement of the heart to the right side. He was deeply cyanosed and had clubbing of the fingers and arching of the nails. The heart was slightly enlarged and two-thirds of its dulness lay to the right of the mid-sternal line. A tricuspid systolic murmur was present. The pulse was frequent, varying between 80 and 100, and was of low pressure. There were anasarca with great enlargement of the liver and considerable enlargement of the spleen, as well as albuminuria. On Oct. 20th, 1902, the hæmoglobin was 110 per cent.; the red corpuscles numbered 6,400,000 and the white 12,500 per cubic millimetre. On the 26th the hæmoglobin was 112 per cent., the red corpuscles numbered 7,500,000 and the white 14,000 per cubic millimetre. On this date the inhalation of oxygen was begun and on the 31st, five days later, the hæmoglobin was 100 per cent., while the red and white corpuscles numbered respectively 8,000,000 and 9960 per cubic millimetre.

CASE 4.—A miner, aged 33 years, came under my care on account of mitral obstruction and incompetence. He suffered much from palpitation. His heart was slightly enlarged. There were presystolic and systolic mitral murmurs and the pulse was of very low pressure with considerable irregularity. There were no changes in the respiratory system. The abdominal organs were unchanged and there was no albuminuria. The condition of the blood may be stated in tabular form as follows:—

	Hæmoglobin. Per cent.	Erythrocytes. Per c.m.	Leucocytes. Per c.m.
Oct. 20th	131	7,500,000	11,400
,, 31st	120	7,000,000	9,680
Nov. 17th	110	7,250,000	10,000
Dec. 3rd	110	6,500,000	11,000
On Dec. 3rd oxygen inhalation was begun.			
Dec. 5th	115	7,200,000	9,800
,, 8th	110	6,000,000	10,000

The results of these two observations seem to indicate that the inhalation of oxygen is barren of result. It is generally understood that the ordinary air of the atmosphere contains considerably more oxygen than can be absorbed in any circumstances, and the results of our observations, now fairly numerous, are strongly in favour of this conception.

It is a pleasure to express my warm thanks to my house physicians, Dr. L. C. Peel Ritchie, Dr. H. H. Bullmore, and Dr. A. F. R Conder, for their unwearied devotion in conducting the examinations of the blood of many patients in pursuance of these observations, and to acknowledge the assistance which we have received in our investigations from Dr. A. Goodall and Dr. A. Dingwall Fordyce.

Edinburgh.

TWO CASES OF CÆSAREAN SECTION FOR OBSTRUCTION DUE TO FIBROID TUMOURS.

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IN the majority of cases in which fibroid tumours complicate pregnancy no special treatment is required. The course of pregnancy is unaffected, labour occurs naturally, and no unfavourable symptoms arise during the puerperium. In a certain relatively small proportion of cases, however, the presence of a fibroid tumour or tumours in association with pregnancy constitutes a serious danger both to mother and child. Thus in the early months the patient may experience such severe pain that all expectation of allowing the pregnancy to continue has to be abandoned. In some cases the pain is due to the impaction of a pedunculated subperitoneal fibroid in the pelvis, and in some such cases it is possible without undue force to push up the fibroid with relief of the symptoms. In addition to the pain difficulty in micturition is very apt to occur, and this was, in fact, among the symptoms at the fourth month in Case 1 recorded below. While undoubtedly pain may be so severe as to require the interruption of the pregnancy it is well not to accept this view of the matter hastily. In both cases recorded in this paper pain was a marked symptom at about the fourth month, yet in both of them the pain did not long continue severe and it disappeared altogether in the course of a few weeks. It should also be borne in mind that in many of these cases of fibroid tumour complicating pregnancy the patients are women pregnant for the first time and that, apart altogether from the presence of fibroids, many such patients have what appears to them to be severe pain, due no doubt to stretching of the various tissues, for instance, to stretching of the abdominal walls. Thus some allowance has to be made for this. Again, it is generally held that fibroids coexisting with pregnancy predispose the patient to miscarry. I am inclined myself to believe that this is so, but probably much depends on the exact position of the tumour. However this may be, in a recent case of the kind in my practice, where a miscarriage occurred at about the middle period of pregnancy, there was very severe post-partum hæmorrhage.

The effect of fibroid tumours on the process of labour is generally little or nothing unless the fibroid is so situated as to constitute a serious or even insuperable obstacle to the passage of the child. After labour there is a considerable risk of septicæmia if the fibroid has been damaged during the process of delivery. In both the cases here recorded the position and size of the fibroid were such as to render delivery of a living child by the natural passages out of the question. In both cases it happened that I saw the patients at about the same period of pregnancy—viz., about the fourth month—so that several alternative methods of treatment were possible.

1. Thus in the first place, the pregnancy might have been terminated either by the induction of a miscarriage or by abdominal hysterectomy. In both cases though it would have been possible to induce a miscarriage, as the vaginal portion of the cervix was in each case even then displaced high up and to the left the necessary manipulations would have been none too easy. If some portion of the placenta had been retained, as would not have been unlikely, it would have been an extremely difficult thing to remove it. By this treatment, too, the child would of course have been sacrificed. For all these reasons I considered the induction of a miscarriage unsuitable for either case. Had it been really necessary to terminate the pregnancy either on account of pain or for any other reason, I think that abdominal hysterectomy would have been the better treatment. Mr. Alban H. G. Doran recently[1] published an interesting paper recording three cases of fibroids complicating pregnancy in which he performed abdominal hysterectomy in the middle period of pregnancy. In neither of my cases, however, did there seem to be any sufficient reason for interfering, though when I first saw the patients they were suffering from a good deal of pain. This soon diminished and before long entirely disappeared. In each case the remainder of the pregnancy was quite normal.

2. An attempt might have been made to remove the tumour by myomectomy, leaving the uterus in the hope that the pregnancy would continue undisturbed. As regards the first case there was a large fixed tumour lying to the right of the cervix. It evidently lay in the broad ligament. In the second case the tumour sprang from the supra-vaginal cervix and had grown down into the recto-vaginal septum, displacing the vaginal portion of the cervix upwards and to the left. The mechanical difficulty of getting at a tumour so low down without removing the uterus would have been very great. In some cases of myomectomy during pregnancy, even when the "bed" from which the tumour has been enucleated has been fairly accessible, it has been found necessary to remove the uterus before the bleeding could be controlled. This seemed still more likely to happen in my cases if myomectomy had been attempted, on account of the low position in the pelvis occupied by the tumour in each case. I therefore decided against myomectomy.

[1] THE LANCET, Nov. 29th, 1902, p. 1451.

3. Another alternative was to allow the pregnancy to continue till within a few days of full term and then to perform Cæsarean section. This was, in fact, the treatment adopted in both cases. One question remained for consideration—viz., whether conservative Cæsarean section should be the operation or whether after delivery of the child hysterectomy should be performed. It seemed to me that as in both cases the tumour had caused no trouble till pregnancy began there was a considerable probability that after involution of the uterus was complete no further trouble would arise. If subsequently symptoms severe enough to justify hysterectomy should occur it seemed to me that it would be time enough then to perform the operation. By the conservative Cæsarean section the uterus would be retained and the menstrual function would continue as before. Other things being equal this seems to be a not unimportant argument in favour of performing the conservative operation rather than hysterectomy. In Dr. A. Donald's[2] valuable paper on Fibroid Tumours complicating Pregnancy and Labour it is said that "when Cæsarean section has to be performed, as a general rule, it should be followed by hysterectomy. The presence of a fibroid renders the risks of the conservative operation greater while at the same time it affords a distinct indication for the removal of the uterus." I have already given above the reasons which led me to perform the conservative Cæsarean section in my two cases rather than Cæsarean section followed by hysterectomy. I think that in deciding much depends on the details of the particular case. If, for instance, there are several large fibroids present and if there is a distinct history that the patient has previously to the pregnancy suffered a good deal from symptoms referable to them, then the Cæsarean section should be followed by hysterectomy. On the other hand, when there is apparently only one fibroid, when it seems to be only of importance as an obstacle to delivery, having caused no trouble antecedent to the pregnancy, then I think the uterus should be left.

CASE 1.—On Jan. 9th, 1902, I was asked by Mr. H. Richardson to see a patient who gave the following history. She was 42 years of age and she had been married on May 20th, 1901. She had last menstruated in the second week of September; the 10th was the last day of the period. She was taken ill on Dec. 20th, 1901, with great pain in the lower abdomen and difficulty in passing urine. The temperature at that time rose to 101° F. She remained in bed from that time until the date when I was asked to see her. On examining the abdomen an elastic swelling was felt rising out of the pelvis and reaching rather above the level of the umbilicus. This swelling lay somewhat to the left of the middle line. A hard lump was felt just above the pubes and to the right, separated by an indistinct depression from the elastic swelling above mentioned. Nothing was heard on auscultation over either swelling. The breasts looked rather active. On vaginal examination the vaginal portion of the cervix was found to be very high up and to the left. A hard swelling with the convexity downwards was felt in the right lateral fornix. It was nearly fixed and bimanually could be felt to be continuous with the hard lump felt above the pubes while examining the abdomen. The vaginal cervix had evidently been pushed upwards and to the left by this hard swelling. It was difficult to estimate the size of this hard swelling exactly, but it appeared at this time to be of about the size of a large orange. Although I had not obtained ballottement, and it was rather too soon to expect the fœtal heart to be audible, I had little doubt that the patient was about four months' pregnant. It appeared to me that the elastic swelling described as lying rather to the left in the lower abdomen was the pregnant uterus and that the position of its upper border—rather above the level of the umbilicus—at that period of pregnancy was accounted for by the presence of the hard swelling in the pelvis. It seemed to me to be quite certain, even at this time, that the presence of the hard tumour to the right of the cervix would render delivery at full term of a living child absolutely impossible. I was not at this time at all certain whether it was a fibroid of the broad ligament or a fibroid growing from the right side of the cervix out into the broad ligament. The possibility that the tumour might be an ovarian tumour, more or less adherent in the right side of the pelvis, was not overlooked. I advised that, if possible, the patient should be allowed to go to full term and be delivered by Cæsarean section. But I suggested that she should be examined from time to time, so that any alteration in the position or mobility of the pelvic tumour might be recognised. On Jan. 24th the patient was carefully examined at a nursing home under anæsthesia and the result of the previous examination was entirely confirmed. By this time most of the symptoms (pain and so on) had practically disappeared and she was fairly comfortable. She went on in much the same way during the succeeding months. I did not see her again until May 6th. On examination on that day the physical signs were very similar except that the patient was now about eight months pregnant and the hard lump in the right side of the pelvis, described at the earlier examination, was decidedly larger, so that the vaginal cervix was even more difficult to reach than it had been in January. According to my calculation from the date of the last menstruation it appeared that labour might be expected to commence about June 15th. It was arranged that the patient should go into a nursing home about June 3rd and that the operation should be performed about the 10th—that is to say, about five days before full term. These arrangements were exactly adhered to. She went into the nursing home on June 3rd. I saw her on the 8th and asked my friend Dr. W. J. Gow to see her with me. He was of the same opinion as myself, that delivery by Cæsarean section was the right treatment.

The operation was performed on June 10th at two o'clock. Dr. Gow kindly assisted me and Mr. H. Bellamy Gardner gave the anæsthetic. On making the incision into the uterus it was found that the placenta lay under the line of the incision. The opening into the uterus was completed as quickly as possible and the placenta removed with the hand. A leg of the child was seized and delivery was completed without difficulty. The child, a female, was alive and both in size and other respects corresponded to the development usual at full term. In a minute or two she cried vigorously. The uterine wound was stitched up with two sets of sutures, deep sutures through the peritoneum and muscular coat, stopping short of the endometrium, and numerous superficial sutures for the peritoneum. The sutures were of silkworm gut. Examination of the pelvic tumour from above seemed to make it clear that the tumour was not a uterine fibroid growing out from the tissues of the uterus but a fibroid imbedded in the right broad ligament. An attempt to sterilise the patient was made by pinching up a loop of each Fallopian tube, tying tightly, and cutting off the loop. The abdominal wound was completely closed. The operation lasted three-quarters of an hour and in spite of the placenta being in the line of the uterine incision no very large amount of blood was lost. The pulse was quite good at the end of the operation. The patient made an absolutely uneventful recovery and had very little pain during the two or three days after the operation, so little that she did not wish to have any morphia. She was able to suckle the baby partially. The child also did perfectly well. The mother and child left the home at the end of the first week in July.

CASE 2.—A patient, aged 35 years, was brought to see me by Dr. T. E. Foster MacGeagh on June 2nd, 1902. She had been married ten years but had never been pregnant. She had been quite well up to about four months previously. Menstruation had as a rule occurred regularly every four weeks. The quantity lost had been moderate and she had not usually had much pain at the time. Latterly she had had no pain at all at the periods. She had menstruated in February, the last day of the period being Feb. 12th, and since then there had been amenorrhœa. At the time I saw her she complained of a good deal of pain all round the lower abdomen and in the lower part of the back, also that her "clothes had become very tight" for her. She also complained that she passed urine frequently and she had also felt a little nausea in the morning. All these symptoms had arisen within a few weeks of the time when she first came to see me. She said that her appetite had been very good. She had had no vaginal discharge of any kind. She seemed to have usually led an active life and had been accustomed to ride and cycle up to March, 1902. On examining the abdomen a soft, elastic, somewhat globular swelling was felt rising out of the pelvis and reaching to within about an inch of the umbilicus. Although the general outline of the swelling was fairly uniform slight irregularities of its surface were felt in one or two places. A loud uterine souffle was heard over the swelling but no

[2] Transactions of the Obstetrical Society of London, vol. xliii., 1901, p. 188.

fœtal heart sounds. The breasts looked active but no fluid could be squeezed out of them. On vaginal examination a catheter was first passed and the bladder emptied. The vaginal portion of the cervix was felt high up behind the pubes. The finger only reached it with some difficulty. The os was not, however, directed upwards. A firm, hard, fixed mass was felt in the posterior fornix, extending from the highest point of the posterior fornix some two inches or more downwards under the posterior vaginal wall. It had a considerable measurement transversely and so gave the impression that the mass was somewhat muffin-shaped. The examination suggested that the tumour had grown from the supra-vaginal cervix and that it had extended downwards between the posterior vaginal wall and the rectum. It will be seen that there was as yet no certain evidence of pregnancy but that the physical signs made one almost certain that the patient was really about four months pregnant. It was quite certain that if this were so the solid fixed mass in the pelvis would absolutely prevent delivery of a living child. I gave it as my opinion that the patient was probably pregnant and advised that she should come and see me again in two months' time to make quite certain on this point. I also advised that if she were pregnant the best course would be to allow pregnancy to continue till within a few days of full term and that Cæsarean section should then be performed. After having given my opinion I heard for the first time that the patient had seen two other obstetric physicians, one of whom, Sir John Williams, had advised the patient to wait, and the other had advised the patient to have an immediate operation for the removal of the tumour. As the patient had then two opinions in favour of waiting against one in favour of immediate operation both she and her husband decided to wait.

On August 1st I saw the patient again. The pains of which she had previously complained about the lower part of the abdomen and back had disappeared. She said that she had become much larger in the abdomen and was very well in herself, but said that she suffered from heart-burn rather badly. On examination the swelling in the abdomen had reached well above the umbilicus and I felt fœtal movements in it, but I did not happen to be able to hear the fœtal heart. On vaginal examination the vaginal portion of the cervix was much higher up than at the previous examination and it was almost impossible to reach it. The hard swelling felt in the posterior vaginal wall was very much as before—perhaps somewhat larger. The most probable date for labour to begin was Nov. 16th.

It was arranged that the patient should go into a nursing home on Nov. 3rd and that Cæsarean section should be performed on the 8th unless labour came on spontaneously in the meantime. This arrangement was exactly adhered to. I examined the patient when she was in the home on Nov. 5th. It was then quite impossible to reach the cervix on vaginal examination. The tumour was a great deal larger than at the time of the last examination. The patient's general condition was quite good.

On Nov. 8th I performed Cæsarean section at 10 A.M. Dr. F. W. Hewitt gave the anæsthetic and Dr. Gow kindly assisted me at the operation. The uterus was opened by the usual longitudinal incision and the membranes ruptured; a leg of the child was seized and delivery rapidly effected. The child, a male, was alive and soon cried loudly. He was subsequently found to weigh 6 pounds 8 ounces. After removing the placenta and membranes completely it was found impossible to find the opening of the internal os uteri. I tried several times to feel it in various directions without success and Dr. Gow also tried, but it was evident that the internal os was not at all dilated and we were unable to find it. After we had tried with the finger to find the opening I tried with a long coarse probe, but was quite unable to locate it. We therefore decided not to trouble any more about it. We thought an opening must be there and hoped that it would be large enough to allow the lochia to escape. The uterine wound was then stitched up as rapidly as possible with the usual deep sutures, avoiding the mucous surface, and numerous superficial sutures, taking the peritoneum and superficial layer of muscle only. The sutures used for the uterus were, as in the preceding case, of silkworm-gut. At the lower end of the uterine incision the rather looser subperitoneal tissue had been slightly encroached upon. This led to a fair amount of effusion of blood immediately under the peritoneum, in the neighbourhood of the lowest two or three peritoneal sutures. An attempt was then made to prevent future conception. A loop of the right Fallopian tube was pinched up and tied, and the convex part of the loop cut off. It was then found that the uterus was so twisted on itself that though the right uterine appendages were very easily accessible the left lay deep down. The left ovary was felt close to the pelvic brim and the left Fallopian tube was tightly on the stretch, so that it lay closely applied to the surface of the uterus. It would have been impossible to cut out a piece of the left Fallopian tube without very much enlarging the abdominal incision and it seemed to me unjustifiable to spend the further time that this would have required. The patient had been married ten years without being pregnant, a portion of the right tube had been already removed and the probability that she would become pregnant again seemed not very great and I decided to close the abdominal wound. Before closing the abdominal wound the relations of the tumour were carefully examined from above. On investigating the relations of the tumour with the hand, it was evidently, as had been thought, a fibroid growing from the supra-vaginal cervix and extending down between the peritoneum and vagina and lower again between the vaginal wall and the rectum. I then closed the abdominal wound. After the dressing had been applied the patient's knees were held up in the lithotomy position. It was then found that there was some blood in the vagina and externally, showing that the internal os was at all events open to some extent; it was not sealed over. With the patient in this position it was possible now just to reach the vaginal portion of the cervix, still very high up. The external os was not in the least patulous, no more open than it had been when I first examined her in June. The patient was put back to bed.

The subsequent progress of the case was very satisfactory. From Nov. 8th to 20th the temperature generally was in the neighbourhood of 100° at night, falling to normal in the morning. On the 15th and the 17th respectively the temperature was 101·2° and 101·4°, the highest points reached. The pulse-rate was never over 100 and generally about 90 during this time. After the 20th the temperature was below 100°, except on the 26th, when it reached 100·4°. After that it never exceeded 99·4° till Dec. 6th, when the patient went home. As regards the lochial discharge it was not at all profuse. At the same time it seemed about the average in quantity and it was not necessary to undertake any dilatation of the cervix to facilitate the outflow of the discharge. This was a point which gave me some anxiety till the course of events showed that there was no need for interference. For instance, if it had been necessary to wash out the uterus, it would have been quite impossible to do so without first dilating the cervix under an anæsthetic. Fortunately it was not found necessary to undertake anything of the kind. The mother did not suckle the baby, and at the end of a fortnight it was sent away from the nursing home with the monthly nurse to stay with some relations, contrary to my advice, owing to the severe weather prevailing at the time. However, no harm resulted, and at the time when the mother left the nursing home (Dec. 6th) the baby was quite well.

Harley-street, W.

DIFFUSE CARCINOMATOSIS OF THE STOMACH AND INTESTINES.

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WE have recently had an opportunity of examining three cases of widely diffused malignant disease of the stomach and intestines, a condition which, so far as we have been able to ascertain, has not been previously described. In all the cases a long tract of the alimentary canal was affected, the stomach and the small and large intestines being in each case the seat of a widely diffused carcinomatous infiltration. In every case the stomach presented the condition described as "leather-bottle stomach," either in whole or in part. Thus in Cases 2 and 3 the stomach was

a typical "leather-bottle stomach," while in Case 1 only the pyloric half of the stomach was affected in this manner. A similar growth to that affecting the stomach also involved the small and large intestines to different extents in the different cases. In the intestines the growth seemed to start at the attached border of the mesentery or its homologues—viz., the meso-cæcum, meso-colon, meso-sigmoid, and meso-rectum—and to infiltrate the wall of the bowel for a varying distance towards its free border, in some parts entirely encircling it and in other parts only spreading into the bowel for a short distance from its attached border. In places where the growth had infiltrated the entire circumference of the gut it was thickest at the attached border and gradually became thinner towards the free border. In Case 1 the parts affected were the pyloric half of the stomach, the small intestine in places, and the entire colon, while the cæcum was free from growth; in Case 2 the entire stomach was infiltrated, the small intestine in places, and the whole of the colon, the cæcum again being free; while in Case 3 the entire stomach, the small intestine in places, the cæcum, the colon, and the rectum were infiltrated with growth. To the colon in all the cases, and to the cæcum and rectum in Case 3, the terms "leather-bottle" colon, cæcum, and rectum respectively, might be fittingly applied. In all the cases the growth had spread for a short distance in between the two layers of the mesentery and the meso-colon, and in Case 3 the meso-cæcum and the gastro-hepatic omentum were similarly affected. In Cases 1 and 2 the cæcum and meso-cæcum were unaffected. We are not sure of the condition of the gastro-hepatic omentum in Cases 1 and 2, as no note was made of these parts at the time of the post-mortem examination. In all the cases the great omentum and the mesenteric and retro-peritoneal glands were free from growth. The fundus of the gall-bladder in Case 1 was infiltrated with carcinomatous growth to the thickness of one-eighth of an inch, and there was a small metastatic deposit in one of the kidneys in this case, but with these exceptions there were no metastatic growths in any one of the three cases. In all the cases there was in no part of the stomach or intestines any sign of ulceration of the mucous membrane and until microscopic sections were made it was not clear where the growth had originated. The result of this widely diffused malignant disease was to cause stenosis at one or other part of the alimentary tract and sometimes at more than one part in the same case. Thus, the patient in Case 1 died from perforation of the cæcum behind a stenosis in the ascending colon; in Case 2 the patient had gastro-jejunostomy performed for pyloric obstruction; while in Case 3 there was some hesitation between performing a gastro-jejuno-tomy for pyloric obstruction or an inguinal colotomy for rectal obstruction. In this case the colotomy was finally decided upon, but the necropsy showed that a gastro-jejunostomy was just as much indicated. Case 1 was that of a female; Cases 2 and 3 were those of males. The ages were 27 years, 33 years, and 56 years respectively. Ascites was present in Case 3 but absent in Case 2, while the presence of the septic peritonitis in Case 1 made this condition uncertain.

The following is a brief record of the clinical aspect of each case with details of the post-mortem examinations:—

CASE 1.—A woman, aged 27 years, was admitted into the General Hospital, Birmingham, on June 8th, 1901, with general septic peritonitis. Her previous health had been good until 12 months before her admission, and during this time she had suffered from anæmia and debility and indefinite abdominal pain of an intermittent colic-like nature. A week before her admission symptoms of intestinal obstruction supervened and she was received into the hospital with signs of general peritonitis. She died two hours after her admission, during the administration of an anæsthetic, from asphyxia arising from regurgitation of stomach contents into the larynx.

At the necropsy the body was found to be thin with no external glandular enlargements. The abdomen was much distended and it contained free gas and about three pints of turbid purulent fluid mixed with fæcal matter. There was a general acute septic peritonitis, the entire peritoneum being covered by a thick fibrinous exudation loosely gluing the coils of intestine together. The peritonitis was due to the perforation of a stercoral ulcer situated in the cæcum. The cæcum was dilated and thinned owing to its lying above an obstruction in the ascending colon. The œsophagus was healthy. The stomach was small and was much thickened at the pyloric end, the fundus and cardiac end being of natural thickness. The thickening was due to an infiltrating growth of the wall of the stomach starting at the pylorus, where it was one-third of an inch in thickness, and spreading for about four inches into the main portion of the stomach, gradually thinning away into the normal stomach wall. There was no stenosis of the pylorus. The mucous membrane and the serous coat of the stomach were quite intact and were not apparently affected by the growth. The duodenum was free from growth but the jejunum, ileum, and colon showed the presence of a similar growth to that in the stomach wall. In the small intestine the growth was present only at certain places along the mesenteric border of the bowel and spread only for a short distance into the wall of the bowel, but the colon was affected throughout its length and here, too, the entire circumference of the bowel was infiltrated. Everywhere the mucous membrane of the intestine was intact and showed no ulceration. The lumen of the small intestine was normal but that of the colon was much encroached upon in places by the infiltrating growth. The greatest narrowing occurred in the ascending colon and was so marked that the cæcum was much thinned and dilated and contained in its walls a perforated stercoral ulcer. The great omentum was free from growth. There were no enlarged mesenteric or retro-peritoneal glands. The growth, however, penetrated for a short distance between the two layers of the mesentery and meso-colon. The liver weighed 56 ounces and was fatty. The gall-bladder was contracted, thick-walled, and empty. It was the seat of a similar infiltration to that in the stomach and intestines which had started at the fundus and terminated abruptly at the beginning of the cystic duct. The spleen was soft and small. The kidneys together weighed 10 ounces and one of them contained in the cortex a small ill-defined pale patch which on microscopical examination proved to be a metastatic deposit of the new growth. The suprarenals were healthy, as were also the bladder and urethra, the uterus, and the adnexa. There were no metastases other than the infiltration of the fundus of the gall-bladder and the growth in one kidney.

CASE 2.—A male, aged 38 years, was admitted into the General Hospital, Birmingham, on Oct. 3rd, 1901, complaining of epigastric pain of about ten weeks' duration and of vomiting after meals during the past month. His history prior to May, 1900, was not obtainable. At that date, however, he had an attack of severe pain in the right side of the abdomen and a right subphrenic abscess was found and was drained by an abdominal incision. The cause of the abscess was not ascertainable at the time of the operation or even later at the necropsy. He was free from pain after this operation till ten weeks before his admission, when a recurrence of the gastric symptoms appeared. He had severe epigastric pain, which was worse after meals, and occasional vomiting. The pain used to come on periodically in attacks of great severity, lasting for several hours and leaving the patient very exhausted. On admission into the hospital he was very emaciated and his general condition was one of marked asthenia. The pain was constant, he vomited frequently almost immediately after taking food, and consequently was only able to take very small quantities of liquid food at a time. The bowels were opened with difficulty—only by enemata. On Oct. 7th, 1901, anterior gastro-jejunostomy was performed—a Murphy's button being used. He sank and died on the 10th.

At the necropsy the body was found to be very emaciated, but with no œdema, jaundice, or external glandular swellings. There was an old laparotomy scar through the right rectus abdominis close to the costal margin—the incision through which the subphrenic abscess had been drained in May, 1900—and there was a recent wound in the middle line through which the gastro-jejunostomy had been performed. On opening the abdomen the upper part of the peritoneal cavity was found to be obliterated by an entangled mass of firm fibrous adhesions and the jejunum was seen to be anastomosed to the anterior wall of the stomach by a Murphy's button. The union was good, the button was *in situ*, and there were no signs of recent peritonitis. The vermiform appendix was healthy but very long and passed up over the right kidney imbedded in firm adhesions and its tip lay almost touching the fundus of the gall-bladder. The œsophagus was healthy. The stomach was very small and contracted and its walls were much thickened—the "leather-bottle" stomach. The thickening was seen to be due to a submucous infiltrating growth of a pearly homogeneous glistening appearance. The

growth was thickest at the pylorus, and here it measured one-third of an inch in depth; traced towards the fundus it became gradually less and less thick. The pyloric orifice was narrowed, barely admitting the tip of the little finger. The mucous membrane of the organ was everywhere intact and presented no signs of ulceration, either recent or old. The duodenum was healthy. The mesentery of the jejunum and ileum presented many small nodular thickenings situated between the two layers of the peritoneum close to the bowel and spreading in places into and around the wall of the bowel and causing a decided thickening of the bowel at these places. The cæcum was thin and a little dilated; the colon was thick-walled, but there was no narrowing of the lumen. The thickening of the colon was due to an infiltration of the wall by a pearly homogeneous glistening growth similar in appearance and in distribution to that affecting the stomach. The growth was thickest at the attachment of the colon to the meso-colon, and it became thinner as it was traced towards the free surface of the colon. There was no ulceration of the mucous membrane of the intestine. The omentum was free from growth and there was no enlargement of the mesenteric or retro-peritoneal glands. There were no metastases. Each kidney was in an advanced condition of hydro-nephrosis, due to the impaction of calculi in the pelvis. The other organs were healthy. There was nothing found post mortem to account for the subphrenic abscess drained during life, although the adhesions in the upper part of the abdomen were the probable result of this collection of pus. There were no symptoms during life suggesting the presence of renal calculi; in fact, these and the resulting hydro-nephrosis were quite unexpectedly found at the necropsy.

CASE 3.—A man, aged 56 years, was admitted into the General Hospital, Birmingham, on Sept. 23rd, 1901, complaining of severe abdominal pain, of increasing difficulty in passing his motions, and of distension of the abdomen. Prior to these symptoms, which were of gradual onset and of about eight months' duration, the patient had had good health. On admission into the hospital he was very emaciated and very weak. The abdomen was greatly distended and an attempt was made to relieve the distension by tapping, but only about 20 ounces of almost clear ascitic fluid were obtained by syphonage and the distension remained evident. No tumour was definitely felt by palpation, but per rectum an obstruction encircling and almost occluding the bowel was found. No ulceration of the mucous membrane was felt in the rectum nor any growth projecting into the lumen. The condition suggested a fibrous stricture. When the question of more radical treatment was discussed there was hesitation as to whether the patient would be relieved more by a gastro-jejunostomy or by a colotomy. So prominent a symptom was epigastric pain immediately after taking food that malignant disease of the stomach could not be dismissed. It was decided, however, to treat the rectal obstruction which was undoubtedly present rather than to attempt to relieve the problematical condition of the stomach. The subsequent necropsy revealed that either operation alone would have been ineffectual. Colotomy was performed on the 28th, the bowel being opened on the same day. Ascitic fluid escaped freely at the operation and leaked constantly from the wound until the death of the patient, which occurred three weeks later from gradual exhaustion on Oct. 19th.

At the necropsy the body was found to be extremely emaciated. No jaundice, œdema, or external glandular swellings were present. There was a colotomy wound in the left iliac region into which the sigmoid flexure opened. On opening the abdomen about three pints of hæmorrhagic fluid escaped. The peritoneum was acutely inflamed and covered with a fibrinous exudation, matting the coils of intestine loosely together and peeling easily off the intensely injected surface beneath. The œsophagus was healthy. The stomach was small and contracted and its wall was greatly thickened throughout—the "leather-bottle" stomach. The duodenum and jejunum were thin and somewhat dilated. The walls of the ileum were thickened at places. The cæcum was very small and contracted and its walls were greatly thickened, closely resembling the "leather-bottle" stomach in appearance. The colon was throughout its length contracted and thick-walled, the hepatic and splenic flexures and the rectum being so much stenosed that they would hardly admit the little finger. There was no ulceration of the mucous membrane of any portion of the stomach or intestines. The thickening of the parts mentioned was due to infiltration of the walls of the gut by a homogeneous-looking growth starting at the attachment of the gastro hepatic omentum, mesentery, meso-cæcum, meso-colon, and meso-rectum to the various viscera (the stomach and the small and large intestines), and spreading into the wall of the bowel in the submucous layer. In places it entirely encircled the bowel, but everywhere was obviously thicker and more definite at the attached border and gradually shaded off to the opposite free border of the bowel. The gut was not uniformly affected with the growth. Along the small intestine it could be better felt than seen as small nodular thickenings at the attached border of the bowel. In the large intestine the thickenings were in places very conspicuous and gave rise to the stenoses of the hepatic and splenic flexures and of the rectum mentioned above. The great omentum was free from growth. There was no infiltration of the mesenteric or retro-peritoneal glands. There were no metastases. The other organs were healthy.

The accompanying table is a summary of the important features of these cases.

Case.	Sex.	Age.	Prominent symptoms.	Diagnosis.	Treatment.	Approximate duration.	Site of growth.	Metastases.	Ascites.	Site of obstruction.
1	F.	27	Anæmia, debility, abdominal pain.	General peritonitis.	Laparotomy.	12 months.	Pyloric end of stomach, small intestine (in places), and colon.	Gall-bladder, kidney.	Undeterminable.	Ascending colon.
2	M.	38	Epigastric pain, vomiting.	Gastric ulcer.	Gastro-jejunostomy.	3 ,,	Whole of stomach, small intestine (in places), and colon (whole of).	None.	None.	Pylorus.
3	M.	56	Chronic constipation with abdominal pain and distension.	Fibrous stricture of rectum and (?) malignant disease of stomach.	Colotomy.	8 ,,	Whole of stomach, small intestine (in places), cæcum, colon, and rectum.	None.	Ascites.	Pylorus, cæcum, hepatic flexure, splenic flexure, and rectum.

In all the cases the microscopical characters of the new growth were identical in the main, only differing in minor details. We found that the growth was a glandular carcinoma arising in the deeper layers of the gastric mucous membrane and undergoing colloid degeneration. Our conclusions were based on the study of sections from the following parts. In Case 1: (1) the stomach wall, transverse section taken at the junction of the infiltrated part with the healthy part, at a point about four inches from the pyloric end; (2) the ileum, transverse section taken at the junction of the bowel with the mesentery, including the mesenteric attachment; (3) the colon, transverse section of the free unattached portion of the wall away from the meso-colon; (4) the metastasis in the kidney; and (5) the infiltrated fundus of the gall-bladder. In Case 2: (1) the stomach, transverse section of the thinnest part of the infiltrated wall; (2) the ileum, transverse section of the entire intestine; and (3) the splenic flexure, transverse section of the entire intestine. In Case 3: (1) the stomach, transverse section of the thinnest part of the infiltrated wall; (2) the cæcum, transverse section of the free surface; and (3) the rectum, transverse section of the free surface.

In all these sections growth of identical nature and

distribution was found, but the colloid degeneration was variously advanced in the different cases and of varying degree in the different parts of the same case. In all the distribution of the growth was identical. It formed a very thick continuous layer occupying the submucosa and another less thick but still continuous layer occupying the subserosa, and these two layers of growth were united to one another by strands of growth of varying thickness, splitting up the muscular layers of the stomach and intestines into bundles of muscular fibres of varying size. In the sections of the small and large intestines of these cases the muscularis mucosæ and the mucous membrane beyond were for the most part intact; occasionally, however, a mass of glandular carcinoma was found occupying the deeper parts of the mucous membrane and penetrating through the muscularis mucosæ to become continuous with the main mass of growth in the submucosa. In the stomach sections, however, while the growth had the above general distribution it could be seen to arise in the deeper layers of the mucous membrane as a typical glandular carcinoma, to penetrate the muscularis mucosæ and to become continuous with the main mass of growth in the submucosa, with which again the subserous layer of growth was joined by strands of growth splitting up the muscular coat.

As we have said, the amount of colloid degeneration varied in the different cases and in the different parts of the same case. In any particular section the degeneration was seen to become more advanced as the growth was traced outwards from the mucous membrane to the serous coat, so that in every case the growth occupying the subserosa was more degenerated than the layer of growth in the submucosa of the same part. Many of the sections showed the different stages of colloid degeneration in a very beautiful manner. Throughout the sections the cells of the growth stained but faintly. They showed great inequality in size and there was a general tendency to increase in size as one passed from the mucosa to the serosa. With this increase in size there was a marked tendency to vacuolation and granularity of the protoplasm with displacement and distortion of the nucleus till in the serosa large spaces filled with colloid material and containing only the débris of pre-existing cells were met with. This degenerative change, which we believe is of a colloid nature, was only appreciable microscopically. There was nothing in the macroscopical appearance of the stomach or intestines to suggest such a change. Everywhere the infiltrated part of the stomach and intestines was of leathery hardness and we anticipated a fibrous infiltration of the parts rather than the invasion by carcinomatous growth which we found. In fact, when the necropsies were first made we thought we had the condition described in Osler's "Medicine" ("proliferative peritonitis") in which a thickening of the peritoneum is found associated with cirrhosis of the cæcum and ascending colon or of the stomach. Some of the sections in which the degeneration was so advanced that practically no definite epithelial cell elements remained—the tissue appearing as a fibrous meshwork inclosing apparently empty interspaces—helped to bear out the opinion formed on an examination by the naked eye only, that the entire process was a diffuse fibrosis. A consideration of sections, however, from different parts and the evidence they afforded of different stages of the same degenerative process have led us to our final conclusion that these were cases, not of a diffuse fibrosis, but of a diffuse carcinomatosis undergoing colloid degeneration. This degeneration was most marked in Case 2 and least marked in Case 1. In Case 2 the degeneration was more advanced in the splenic flexure than in the ileum and more advanced in the ileum than in the stomach. In Case 3 the degeneration had an exactly opposite distribution, being more advanced in the stomach than in the cæcum, and more advanced in the cæcum than in the rectum, while in Case 1 in the stomach the degeneration was only present in the subserous layer of growth, while in the ileum and colon the submucosa as well as the subserosa showed marked degeneration.

We have referred at some length to the presence of the degeneration in these growths because it so masks the true (carcinomatous) nature of the growth in many of the sections that when we showed specimens of these cases at the meeting of the Pathological Society of London held on April 29th, 1902,[1] we were altogether in doubt as to their exact nature and we suggested that they might be endotheliomata. A more careful study of the sections, however, has brought us now to the conclusion that they are carcinoma arising in the deeper layers of the gastric and intestinal mucous membranes undergoing colloid degeneration. We do not seem to have been alone in describing these specimens when they were shown last April as endotheliomata, as a statement in the *Centralblatt für Gynäkologie* shows. On page 1109 in No. 42 (Oct. 18th, 1902) we read the following: "Many so-called endotheliomata of the intestines are only metastases of, for example, scirrhus of the stomach."

We have not been able to find any account of such widespread carcinomatous infiltration of the stomach, the small and the large intestine, in the literature of malignant disease of the intestinal tract and so we have reported these cases in some detail. We wish to thank the staff of the General Hospital for permission to publish these cases.

Birmingham.

[1] THE LANCET, May 3rd, 1902, p. 1249.

ON THE RESULTS IN 50 CASES OF ABDOMINAL HYSTERECTOMY FOR FIBROID DISEASE OF THE UTERUS:

WITH REMARKS ON THE AFTER-HISTORY OF THE PATIENTS AND ON THE ARTIFICIAL MENOPAUSE.

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THERE is, I think, no doubt that medical opinion is still in a somewhat transitional and uncertain state as regards the wisest and best treatment for fibroid disease of the uterus. We need only recall recent debates at various societies in order to illustrate the wide gulf which separates the views of the conservative school, on the one hand, from those of the operative school on the other. It is in order to add a small portion to the sum-total of positive knowledge on this important subject that I venture to bring forward the essential features in 50 cases of operation for fibroid disease which have been under my care during the last few years. I have been especially anxious to ascertain by personal investigation the real condition of these patients some years after operation, to find out what sort of health they really enjoy and to what extent they are able to fulfil the duties of citizenship and to take their share in the work or play of life.

The investigation of the after-histories of these cases is not an easy matter and I wish to give one word of caution against hastily accepting the unverified statement of a patient without opportunity for personal interview and cross-examination. Many female patients who have undergone an operation which, in their own eyes and that of their friends, is of a heroic character are apt to give a correspondingly coloured account of their later condition and they either magnify or minimise their sufferings, or their cure, according to the sanguine or melancholic bent of their minds. In those cases in which I have been unable personally to see the patients I have obtained valuable information from the medical men in attendance. The cases have been arranged in series in a table under the following headings: Hospital or private number, age, date, married or single, and number of children; character of menstruation, presence of pain, and pressure symptoms; length of disabling illness; the nature of the tumour; the condition of the appendages; the nature of the operation; the primary result; the result at the present time; together with remarks.

The following lessons are to be learnt from a study of this limited series of cases of sufferers from fibroid disease sufficiently disabling to necessitate a serious operation.

1. The first point is the unfortunate history of prevailing sterility and of frequent and repeated miscarriages. In other cases the disease may be regarded as an impediment to marriage. Thus, out of 50 patients 20 were unmarried and out of the remaining 30 married women there were 11 miscarriages and only 33 children.

2. The disabling effect of the disease on the working capacity and enjoyment of life of the sufferers depends not alone, or indeed chiefly in most cases, on the profuseness of the menstruation, but on the pain and pressure effects of the pelvic tumour. Of course, in cases of violent flooding this alone renders the patient a complete invalid, and this

condition of extreme hæmorrhage nearly always means endometrial invasion and is generally associated with a submucous or polypoid tumour. Nearly all the patients suffered at times from some degree of pressure effect, especially on the bladder. Two had suffered from retention of urine and accompanying cystitis for several months, and three from backward ascending trouble, leading to pyelitis and kidney disease. In the majority of patients the disabling effect is produced by a combination of repeatedly recurring moderate loss, with constant discomfort, pain, and pressure, and thus the nervous resistance of these patients is worn down by the vicious circle. No doubt the social condition of the patient is a very important factor in deciding as to the necessity or otherwise for operation. This point will be alluded to again in the concluding remarks. The case of a poor woman who has to earn her living and to support her family is on a different level from that of a lady surrounded by luxury; for while in the first case it is essential to restore the patient to moderate health in order to avoid starvation or the workhouse, in the other case the favourable surroundings, while removing the necessity for operation on these grounds, do so by enabling the patient to struggle with the disease instead of being overwhelmed by it. Rest and luxury never cure fibroids. What they can do is to enable the patient to live the life of an invalid, a privilege denied to the poor; and in the case of the rich patient, if it is wished to enter again on the enjoyment of the work and duty of life, the necessity for operation is as important a factor in the one case as in the other.

3. The condition of the appendages in cases of fibroid disease is an interesting point. In 18 cases one or both ovaries were cystic—that is, they contained cysts varying in size from that of a filbert to that of a hen's egg and in some there were signs of peri-oöphoritis. In one case there was hæmato-salpinx, in two cases double pyo-salpinx, and in five cases hydro-salpinx. No doubt the association of tubal disease with fibroid tumour is an accidental one to a certain extent and depends on previous gonorrhœal infection and also on puerperal infection following the miscarriages to which these patients are especially subject. In a series of cases drawn from hospital patients such conditions will no doubt be especially frequent. I am, however, inclined to think that the oöphoritis and cystic changes in the ovaries are intimately associated with the tumour formation in the uterus. It is, at any rate, true that those cases have presented the worst symptoms, especially as regards pain, where the appendages have been affected. This would no doubt be expected and the difficulties of the operation are, of course, considerably increased by previous pelvic inflammation. In three of the cases the uterus contained at the time of operation an ovum from six weeks to three months old. This condition was suspected before operation and was not considered a contra-indication to its performance. In one case caseating tuberculous foci were present in the Fallopian tubes and tuberculous disease was proved to be present in the endometrium by microscopic examination. As to the size of the tumour this varied from the enormous tumour occupying the whole abdomen and interfering with respiration, to the small intramural multinodular or submucous tumour which, though inconsiderable in size, often gives rise to urgent symptoms.

4. Degeneration in fibroid tumours is, I think, more frequent than is generally supposed. In most of the cases of large single tumours degenerative changes were noticed in the centre; cystic changes, too, were frequently found, and this is well shown in the case of a fibroid in Douglas's pouch in which the greater portion of the swelling has been converted into a cyst containing clear yellow fluid. If the tumour be single this condition might give rise to insuperable difficulty in diagnosis; in this case the swelling was only one of several outgrowths. The occurrence of degeneration, cystic or otherwise, in a tumour does not seem in any way to lessen the hæmorrhage or other symptoms referable to the fibroid, nor is its presence inconsistent with a further growth of the tumour at its periphery or with the growth of other tumours.

5. In two cases in addition to moderate-sized tumours, an invasion of the uterine wall by very numerous small fibroids was noted, little whorls of involuntary muscular tissue, showing all stages between this and the recognisable larger tumours. Bland-Sutton and others have reported cases of this character and have drawn attention to this condition. In one of the worst cases of hæmorrhage in this series (No. 2556), which previous curetting had failed to relieve, the condition found was one of marked hypertrophy of the uterine walls, which on microscopic examination was found to be due to this infiltration by microscopic fibroids; the benign character of the growth was, I think, shown by the complete recovery and absence of any recurrence after operation.

6. The question of the association of fibroid disease with cancer of the uterus should be considered separately from that of the association of fibroid disease with cancer of other parts of the body. In one case a large uterine fibroid was associated with a pre-existing scirrhus of the breast with glandular recurrence after removal. The effect of removal of the ovaries was very marked on the uterine hæmorrhage and the size of the fibroid, but had little effect on the course of the malignant disease, from which the patient died later. One case (No. 1910) of enormous fibroid was also associated with cancer of the sigmoid flexure and this was only discovered after the removal of the uterine tumour which filled the abdomen. The patient underwent inguinal colotomy for the relief of the obstruction due to the cancer of the colon and eventually died from the disease some months later. The question of the association of fibroids with cancer of the uterus is an important one and can be best considered in relation to the subject of the natural history of fibroids in patients who have not had the tumour or the uterus removed by operation. In recalling the histories of such cases as have come under observation during the last few years I can recall two, one of a married woman, a multipara, and one of a single patient, in which operation was declined or was not thought desirable, in which long years of invalid life were passed through owing to pressure and hæmorrhage before the climacteric, and in which after that period the symptoms of cancer of the uterus appeared and the disease ultimately killed the patients. Out of 16 cases of vaginal hysterectomy for cancer, &c., in one case the disease was associated with a moderate-sized fibroid.

7. As to the nature of the operation there is no doubt that surgeons are now largely benefiting by the tentative and anxious labours, trials, and failures of the early operators, Keith, Spencer Wells, and Lawson Tait. In fact, I believe that up to the last an abdominal hysterectomy was always undertaken by Lawson Tait with anxiety and some amount of misgiving, and Keith was always anxious as to the result. It was only when the technical knowledge of pelvic operations gained by British and foreign operators was based on the bedrock principles of aseptic surgery, that the cloud of anxiety was fully lifted and that it became possible to undertake a complicated case of abdominal hysterectomy with as great a sense of mastery and assurance as has been the case for many years in ovariotomy. I well recollect the sense of depression with which I closed the abdomen without feeling justified in attempting at that time to remove a very large uterine fibroid with pelvic extensions in 1886; and also the humbling effect of the lesson I learnt from an equally serious case of the same kind at about the same time, in which after advising the patient that operation involved too great a risk, and that rest, palliative remedies, and invalid life were the only course, she returned from Birmingham shortly afterwards with the uterus and tumour removed and health restored. Since that date the confidence, knowledge, and skill necessary to deal successfully with these cases have fortunately spread from the chief surgical centres all over the country.

In the above series, in the first seven cases of abdominal hysterectomy up to 1895, Kœberle's serre-nœud was used, except in one case in which a stout silk ligature was employed, and the stump was treated extra-peritoneally on the same lines. This operation, though fairly safe as regards life, involved much pain from dragging and a retarded and uncomfortable convalescence. In 1896 the operation of panhysterectomy was performed in one case and from 1896 onwards to the present time in all the cases the uterus has been removed above the level of the internal os after ligaturing off the broad ligaments, the formation of peritoneal trans-pelvic flaps and also flaps composed of the tissues of the divided cervix, and the enucleation of any outlying masses of tumour. Accurate suturing of these two lines, the uterine and peritoneal, leaves the pelvis in practically a sound state and no injury is done to the pelvic floor. In some of the cases special difficulty arose. Thus, in No. 2726, the subject of two previous operations,

TABLE SHOWING THE ESSENTIAL FEATURES IN A SERIES OF 50 CASES OF ABDOMINAL HYSTERECTOMY FOR FIBROID DISEASE OF THE UTERUS.

No. of case.	Age.	Date.	Married or single.	No. of children (if any).	Character of the menstruation.	Pain.	Pressure symptoms.	Length of the illness.	Character of the tumour.	Condition of the appendages.	Nature of the operation.	Result.	
												Primary.	Secondary.
685[1]	54	1892	S.	—	Regular but excessive.	Yes.	Rectum.	4 years.	Multi-nodular.	Normal, left ovary removed.	Kœberle's serre-noeud.	Recovered.	Good health.
778[2]	42	,,	M.	—	Menorrhagia.	,,	Yes.	2 ,,	Size of a six months' pregnancy.	Ovaries cystic	,,	Died.	—
1003[3]	50	1894	S.	—	Had ceased for two years.	,,	,,	2 ,,	Very large tumour.	Left ovary cystic.	,,	Recovered.	Good health.
1028[4]	29	,,	S.	—	Profuse.	—	—	2 ,,	Size of a nine months' pregnancy.	—	,,	,,	,,
1383[5]	43	1895	M.	0	Very excessive.	Yes.	Yes.	1 year.	Tumour fills abdomen.	Ovaries cystic.	,,	Died.	—
1414	42	,,	S.	—	Profuse.	,,	Bladder.	1 ,,	Size of a four months' pregnancy.	Normal.	,,	Recovered.	Good health.
1416[6]	40	1896	M.	—	,,	,,	Bladder and rectum.	—	Size of a six months' pregnancy.	—	,,	,,	—
1456	33	,,	S.	—	Very excessive	,,	,,	1 year.	Size of a nine months' pregnancy.	Ovaries cystic.	Panhysterectomy.	,,	Good health.
1556[7]	38	,,	M.	0	Regular.	,,	Yes.	6 years.	Enormous.	Normal.	Abdominal hysterectomy through cervix.	,,	,,
1676[8]	44	,,	M.	—	Profuse.	,,	,,	6 ,,	Multi-nodular.	—	,,	,,	—
1690	40	1897	M	2	Regular.	,,	Retention of urine 3 months.	3 months.	Fills pelvis.	—	,,	,,	Good health.
1793	41	,,		—	Profuse.	,,	Yes.	4 years	Size of an eight months' pregnancy.	Double hydrosalpinx.	,,	,,	,,
1852[9]	35	,,	M	0	Regular.	—	—	2 ,,	Large, multi-nodular.	Both ovaries removed.	,,	,,	,,
1899[10]	39	,,	M.	Five miscarriages	Absent for 10 weeks.	Yes.	Yes.	6 months.	Multi-nodular, fibroid.	—	,,	,,	,,
1910[11]	40	,,	M	1	Regular.	,,	,,	2 years.	Large, also cancer of the sigmoid.	Normal.	,,	,,	Died from cancer 12 months later.
1915[12]	30	,,	M.	One miscarriage.	,,	,,	,,	3 ,,	Pelvis full.	,,	,,	,,	Good health.
2003[13]	35	1897	M	2	Profuse.	,,	,,	1 year.	Uniform enlargement.	,,	,,	,,	,,
2023	37	,,	M.	0	Violent flooding.	,,	,,	,,	Size of an eight months' pregnancy.	,,	,,	,,	,,
2037	44	,,	S.	—	Profuse.	—	—	—	Tumour in posterior wall.	Left ovary cystic.	,,	,,	,,
2084[14]	40	,,	M.	—	,,	Yes.	Yes.	1 year.	Sloughing fibroid.	Ovaries cystic.	,,	,,	,,
2111[15]	42	,,	M.	—	,,	,,	,,	10 years.	Multi-nodular.	Double hydrosalpinx.	,,	,,	,,
2144	44	,,	M.	0	Menorrhagia.	,,	,,	1 year.	,,	Double pyosalpinx.	,,	,,	—
2213[16]	47	1899	M.	0	Absent for five months.	,,	,,	,,	Size of a six months' pregnancy.	Left ovary cystic; both ovaries removed.	,,	,,	Good health.
2273[17]	40	,,	S.	—	Violent.	,,	,,	3 years.	Large.	—	,,	,,	,,
2294[18]	46	,,	M.	0	Profuse for 14 days.	,,	,,	6 months.	Multi-nodular.	Left ovary cystic; tubercle in peritoneum.	,,	,,	,,
2324[19]	24	,,	M.	0	Regular.	,,	,,	1 year.	Multi-nodular, cystic degeneration.	—	,,	,,	,,
2329[20]	25	,,	M.	One miscarriage.	Flooding.	,,	—	2 years.	Size of a five months' pregnancy.	Normal.	Above cervix.	,,	,,
2388[21]	37	,,	M.	0	Regular.	—	—	2 ,,	Fibroid (9 lb. 9 oz.)	—	Through cervix.	,,	Excellent health.
2416	56	,,	S.	—	Ceased at 40.	Yes.	Yes.	15 ,,	Fibroid (7 lb.).	—	,,	,,	Died from dropsy, Dec., 1899.
2442		,,	M.	One miscarriage.	Menorrhagia.	,,	,,	7 years 6 months.	Fills abdomen (14 lb.).	—	,,	,,	—

TABLE SHOWING THE ESSENTIAL FEATURES IN A SERIES OF 50 CASES OF ABDOMINAL HYSTERECTOMY FOR FIBROID DISEASE OF THE UTERUS—(*Continued*).

No. of case.	Age.	Date.	Married or single.	No. of children (if any).	Character of the menstruation.	Pain.	Pressure symptoms.	Length of the illness.	Character of the tumour.	Condition of the appendages.	Nature of the operation.	Result.	
												Primary.	Secondary.
2460	50	1900	S.	—	Profuse for 3 weeks with inter-menstrual discharge.	Yes.	Yes.	3 years.	Large, submucous, and intramural	Left ovary cystic, both ovaries removed.	Abdominal hysterectomy through cervix.	Recovered.	Good health.
2494	—	,,	M.	—	—	—	—	2 ,,	Size of a nine months' pregnancy.	Double pyosalpinx.	,,	,,	,,
2523	28	,,	S.	—	Regular.	Yes.	No.	2 ,,	Large, multi-nodular.	Left ovary cystic.	Cervical hysterectomy.	,,	,,
2556	—	,,	M.	—	Profuse.	,,	—	—	Two small, intramural.	Left ovary cystic, right ovary normal.	Abdominal hysterectomy through cervix.	,,	,,
2651[2]	48	,,	S.	—	—	,,	Bladder.	6 years.	Large.	—	Cervical hysterectomy.	,,	Died six months later.
2639[33]	—	,,	S.	—	Scanty.	,,	Yes.	Some years.	Large, fills pelvis.	Tubes salpingitic.	,,	,,	Good health.
2726[34]	40	,,	M.	—	Profuse.	,,	,,	—	Multi-nodular, adhesions.	Right hydro-salpinx.	,,	,,	,,
2776	34	1901	S.	—	,,	,,	,,	6 months.	Large, posterior wall.	—	,,	,,	,,
2807[35]	41	,,	S.	—	,,	,,	,,	3 years.	Intramural and submucous.	—	,,	,,	,,
2821[36]	42	,,	M.	4	Slight.	,,	,,	—	Multi-nodular.	—	,,	,,	,,
2827[37]	48	,,	S.	—	Ceased for six months.	,,	,,	2 months.	Rapidly growing.	Right ovary cystic.	,,	,,	Died from syncope 14 days later.
3023[38]	37	-	M.	1	Regular.	,,	—	3 years.	Small intramural.	Left ovary cystic.	—	,,	Good health.
3027[39]	40	—	S.	—	,,	,,	Bladder and rectum.	2 ,,	Multi-nodular, cystic degeneration.	—	Cervical hysterectomy.	,,	,,
3041	32	—	M.	1	Profuse.	,,	Rectum.	2 ,,	Very large cystic.	—	,,	,,	,,
3051[30]	43	1902	M.	2	Regular.	,,	Bladder.	12 months.	25 tumours.	—	,,	,,	,,
3096	42	,,	M.	,,	Menorrhagia.	,,	Yes.	12 ,,	Size of a nine months' pregnancy.	Right ovary cystic.	,,	,,	,,
3116	43	,,	M.	6	Excessive.	,,	,,	6 ,,	Multi-nodular.	Right hydro-salpinx.	,,	,,	,,
3180[31]	42	,,	S.	—	Regular.	,,	Bladder.	2 years.	Size of a six months' pregnancy.	—	,,	,,	,,
3222	34	,,	S.	—	Menorrhagia.	,,	Yes.	6 months.	Posterior wall, also polypus.	—	,,	,,	Phlebitis.
3293	30	,,	S.	—	Regular.	,,	Bladder.	12 ,,	Posterior wall.	—	,,	,,	—

REMARKS.—[1] Symptoms of menopause were slight and normal. [2] Both the ovaries and the tubes were removed; hæmosalpinx. [3] Moderate menopause; both ovaries were removed. [4] Both ovaries were removed. [5] Left ovary was cystic, of the size of a cocoanut; the right ovary was gangrenous. [6] Convalescence was delayed by prolapse of the bowel through abdominal wound. [7] Works as a nurse. [8] Operation of partial myomectomy three years previously. [9] Hæmorrhage; the peritoneal flaps were stitched to abdominal incision, cavity tamponaded. [10] Uterus contained a two months' ovum. [11] Colotomy for cancer of the colon. [12] Miscarriage occurred two months before the operation. [13] Normal menopause; curetted three months previously. [14] Patient had peritonitis at the time of the operation, also pyelitis from pressure on ureter. [15] No neurosis. [16] Moderate menopause. [17] Slight neurosis. [18] Moderate menopause lasting 12 months. [19] Patient had peritonitis; profuse sweatings during the menopause. [20] Both ovaries were left; the patient menstruates regularly. [21] Hæmorrhage during the operation. [22] Died from pyelitis existing before the operation; nephrectomy. [23] Patient had had retention a month before the operation; tuberculosis of peritoneum, tubes and endometrium. [24] Patient had had two previous abdominal sections; enterectomy. [25] Slight neurosis. [26] Small hernia. [27] Heart disease; no pelvic complication. [28] Recovery of the patient was delayed by pyelitis. [29] Left ovary was removed. [30] Normal menopause; the left ovary was removed. [31] Albuminuria before the operation.

enterectomy was necessary owing to dense adhesions. In one case (No. 1852), owing to persistent hæmorrhage uncontrollable by forcipressure or ligature, I was obliged to bring up the peritoneal flaps to the abdominal incision and to tamponade the bleeding cavity thus shut off from the peritoneum.

8. One of the most important points that comes out in the consideration of these cases is, I think, the establishment of the fact that the uterus may be readily and safely amputated at almost any level. It is not necessary always to remove the organ just above the internal os, the seat of election, provided that removal at a higher level efficiently removes all sources of present and future trouble. In several cases the uterus has been removed at a considerably higher level and in one case (No. 2329) at a point sufficiently high up in the uterine cavity to allow of regular and free menstrual periods for some years afterwards. Moreover, in three cases of Porro's operation the procedure adopted was in reality a modification of Porro's method. The first case was treated by the serre-nœud in the usual position without separate ligature of the broad ligaments, the obstruction to labour at the full time being due to a dwarf pelvis. In the second case the obstruction was caused by large double adherent ovarian cysts behind the uterus, malignant in origin, and the uterus was amputated four inches above the level of the internal os, after ligature of the broad ligaments, the uterine flaps being involuted and sutured. In the third case, owing to the implication of the lower segment of the uterine body in the malignant mass of rectal cancer, the pregnant uterus was amputated about halfway down and just below the level of the insertion of the placenta. The somewhat voluminous uterine flaps were

turned in and sutured and the peritoneum was sewn over, a more secure condition being thus left than would have been possible after Cæsarean section.

9. *The primary result*.—In this series of 50 cases two patients died from the immediate effects of the operation. In one case the patient was in a very exhausted state from the long illness. She had a double pyosalpinx and died from a subacute peritonitis, no doubt due to infection of the pelvic peritoneum from escape of pus at the time of operation. In the second case (No. 1388) an enormous fibroid and two large ovarian cysts were present, one of which was gangrenous from a twisted pedicle. Peritonitis was also the cause of death. In one case (No. 2827) the patient died suddenly from syncope after an uneventful convalescence on the fourteenth day. The necropsy showed nothing wrong with the pelvic area. In one case (No. 1416) recovery was complicated by a giving way of the abdominal incision some days after the operation during a violent cough, and a coil of bowel escaped; this was, however, returned after due cleansing and the wound was reclosed without any marked effect on the patient. Thus, in the series of 50 cases of abdominal hysterectomy for fibroids two deaths only occurred and primary recovery occurred in 48 cases—that is, if we exclude the death after convalescence on the fourteenth day; and if we take the last 43 cases all treated intraperitoneally there has been no death.

10. With regard to the permanent or later result of such an operation as hysterectomy, the state of health of the patient at the present time is regarded as the measure of the success of the surgical operation. The result can only be regarded as perfect from this point of view when the patient is free from any discomfort or disability, as far, at least, as the operation is concerned. In some cases, though relieved by the operation of all further hæmorrhage and suffering, yet the preceding years of illness have left their impress on the patient's health in the shape of a diminished nerve elasticity and a lower level of health. In some cases, too, where both ovaries have been removed the complicating effect of this procedure is also shown in the artificial menopause. In 38 cases the patients are now in good health, and able to get about, in some cases to carry on their domestic duties and in others to ride or drive or bicycle. One patient (No. 2416) died six months after the operation from heart disease and dropsy. Another (No. 2651) died six months later after nephrotomy for the relief of a pyonephrosis, the result of pre-existing pressure and urethral infection. A third, though relieved of pain, pressure, and hæmorrhage, is still confined to bed with the effects of venous thrombosis in the thigh and leg. Another patient (No. 1910) died from the cancer of the colon present at the time of operation. In four cases I have been unable to trace the patient.

11. In considering the subject of the artificial menopause I wish to draw attention to one or two points which I think have been overlooked by gynæcologists. From the facts and conclusions drawn from a careful study of these cases and from the observation of other cases we are justified, I think, in separating the different factors, the uterine and ovarian elements, which combine together to regulate the menstrual function. Thus, I would speak of the uterine climacteric and the ovarian climacteric. No doubt in the ordinary course of events in most females aged from 45 to 50 years these factors, the uterine and ovarian, undergo involution pretty much together. The nervous mechanism which is concerned in the regulation of the function gradually also follows suit and accommodates itself to the altered state of affairs in the peripheral end organs, and gradually, though not without difficulty (as shown by the flushings and other vaso-motor disturbances), settles down to the new *régime*. Now in the above cases of artificial menopause or early climacteric the result of the operation, we can separate those cases in which the uterus has been removed and the ovaries or ovary left from those in which both ovaries have been removed as well as the uterus and compare these with cases of oöphorectomy for fibroids and other conditions in which the uterus has not been removed. The interpretation of the results in a small number of cases is not without difficulty and further careful observation is needed.

I find that there are seven cases of abdominal hysterectomy in which one or both ovaries were left and in which I have been able personally to interview the patient as to her subsequent condition—viz., No. 2294, No. 2329, No. 2807, No. 2523, No 3027, No. 3051, and No 3096. To these may be added two cases of vaginal hysterectomy in which one ovary was left, and two cases of vaginal hysterectomy for cancer in young women in which there was no recurrence. Most cases of vaginal hysterectomy for cancer are useless from this point of view, as many are performed at or just about the menopause, and in many local recurrence unfortunately is too common. In these cases I have been strongly impressed with the greater rapidity of convalescence, the smaller disturbance of nerve balance, and the far greater measure of good health and enjoyment reached by those patients in whom the uterus has been removed and the ovaries left, as compared with the other class in which the ovaries have been removed with the uterus. In both, of course, the monthly uterine discharge ceases, but in the first class the climacteric is primarily uterine and not ovarian, while in the second class the climacteric is primarily both uterine and ovarian. In fact, where one of the end organs, the ovary, remains, certain periodically recurring nervous phenomena, such as headache, weight in the back, &c., seem to point to the fact that the ovary is still keeping up some of the periodic events which go to form part of the cycle of the menstrual phenomenon; the patient goes through a part only of the menopause at first—the part due to the removal of the uterine factor—and only gradually and later through the other portion, when subsequent changes and involution occur in the ovaries. Further observation is urgently wanted on this question as to the persistence of ovulation after the removal of the uterus. The flushings and irregular vaso motor phenomena are also less pronounced in those cases where the ovaries remain—in fact, I think, are generally absent. These flushings and other nerve phenomena are, of course, the constant accompaniment of the natural menopause, in which I presume the uterine and ovarian elements undergo involution together, and here they are not periodic—the ovarian influence, which I believe to regulate the periodicity of the nervous and other phenomena, having been removed, the vaso-motor disturbances are to be regarded as the irregular explosions of a nerve centre or reflex chain which has been deprived of its escapement mechanism and is unregulated by any end organ influence.

Now if we compare these cases of hysterectomy where an ovary is left with the remaining majority in which the ovaries have been removed along with the uterus, we find that the latter approximate more nearly, in the phenomena of their convalescence and artificial menopause, to patients in whom the ovaries alone have been removed for fibroids or other causes—in fact, to cases of oöphorectomy, provided, of course that the removal has been complete and that menstruation has been entirely stopped. Flushings, irregular nerve storms, and explosions, and radiating effects on the higher centres, psychic and hysterical phenomena, are more common. Local pelvic discomfort is also more marked, whereas in the oöphorectomy series these phenomena reach their climax. With the removal of the chief regulating end organ as regards periodicity—viz., the ovary—the persistence of the other end organ the uterus, although in a partly functionless state, seems only to delay the final settling down of the nervous mechanism the function of which has now been lost and to keep up a local pelvic sense of discomfort.

It is at present premature to discuss at any length the manner in which these different end organs produce these results. With regard to the uterus I showed[1] that in the rabbit, the guinea-pig, and the sheep, one function of the endometrium and mucous membrane lining the Fallopian tubes is to secrete a saline fluid which in the absence of external escape is probably re-absorbed and is in reality an internal secretion, and further that during pregnancy this secretion is in abeyance. This secretion may have an important local and general influence. An internal secretion in the case of the ovary has been presupposed by many writers but has not at present been isolated or its effects defined.

Although further facts and observations are urgently needed we are tentatively able to regard the menstrual phenomenon as made up of three factors, the uterine and ovarian elements or end organs and the nerve factor. Further, the results of operative removal of one or both of these end organs have enabled us to dissociate their combined influence on the phenomenon of the climacteric or artificial menopause so produced. We are thus led to recognise a uterine climacteric and an ovarian climacteric, and to attribute the function of regulation of periodicity to

[1] Journal of Physiology, February, 1898.

the ovarian element in connexion, of course, with the nervous system, and to regard the uterine influence as of less importance in its effect on the nervous system, although the local sanguineous discharge is the more striking and obvious phenomenon. In the natural climacteric both factors undergo orderly and simultaneous involution, while the irregular phenomena of the artificial menopause may be due to the absence of coördination and simultaneity in this process of involution.

12. As regards the sexual phenomena shown by these three groups of cases generalisation is difficult. As far as I have been able to ascertain by careful inquiry the sexual appetite persists, or is only slightly impaired, in those cases in which the uterus has been removed above the cervix and the ovaries left. In cases where the ovaries have been removed with the uterus I think there is no doubt that the sexual appetite is lost, and in cases of removal of the ovaries alone I think, in spite of the assertions of some writers to the contrary, that it is certainly diminished or lost.

CONCLUSIONS.

The decision as to operation in cases of fibroid disease of the uterus must depend on the danger to life and the amount of disablement, ill-health, and suffering which are caused by the disease. The social condition of the patient is also a factor to be considered, and since a comfortable invalid life is incompatible with poor circumstances we are not justified in withholding from poor patients the restoration to working capacity which the operation of hysterectomy, if successful, confers. In patients in a better social condition the very serious moral, mental, and physical effects of long-continued invalid life are not sufficiently appreciated by medical men. In nearly all cases where the disease causes disablement, or where the hæmorrhage, pain, and pressure are sufficiently severe to threaten ultimate serious damage to the general health, to the nervous system, or to the pelvic viscera, in these cases the possibility of cure by operation should be laid before the patient and if the conditions are favourable the operation should be advised.

The operation of abdominal cervical hysterectomy as now carried out has a lower mortality in capable hands than is sometimes represented (4 per cent.) and is comparable with that of ovariotomy. The uterus can be safely amputated at any level, and the absence of recurrence of fibroid disease in the stump or cervical portion of the uterus—in any case in the present series—is an argument in favour of cervical amputation as against panhysterectomy. In the former case also, the pelvic floor is left intact.

Myomectomy, the enucleation of one or more fibroid tumours with the preservation of the uterus as a whole, is a conservative operation of much value and should be practised in the case of single and accessible tumours.

In all cases where possible, one or both ovaries should be left in the operation of hysterectomy for fibroid disease. The beneficial effect of this procedure is shown in the more complete convalescence and the modified character of the artificial menopause.

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BY PEYTON T. B. BEALE, F.R.C.S. ENG.,
SURGEON TO OUT-PATIENTS, KING'S COLLEGE HOSPITAL; SURGEON TO IN-PATIENTS, GREAT NORTHERN CENTRAL HOSPITAL.

ALTHOUGH "cyanide gauze," now in general use for dressing wounds, has been found to be very satisfactory, I think that it can hardly be considered a perfect dressing. It is usually employed in the following manner. A piece of cyanide gauze, consisting of about ten layers and moistened with some antiseptic lotion, is laid on the wound, care being taken that it overlaps the wound at least five inches in each direction. Over this some layers of dry gauze are applied and this is covered with several sheets of sterilised cotton-wool, usually a wool impregnated with an antiseptic such as salicylic acid or boric acid. This wool again overlaps the gauze several inches in each direction and the whole is kept in position by bandages more or less firmly applied. A good deal depends upon the firmness with which the bandage is applied, for it prevents the whole dressing from slipping. Such a dressing must, from its bulk and heat, be uncomfortable to the patient, at any rate in most situations; moreover, it must be removed in order to see how the wound and the parts around it are progressing. The removal must be accomplished under conditions which are very familiar and which are often termed "strict antiseptic precautions."

The fact that we employ so many thicknesses of gauze and wool seems to me to imply that we are afraid of septic organisms gaining access to the wound from the air, and the fact that we apply a dressing over so large an area, and with considerable firmness, that we fear the access of these organisms from the skin around the wound. I am told that the late Sir George M. Humphry of Addenbrooke's Hospital, Cambridge, in pre-antiseptic and aseptic days found that his amputation stumps healed best when they were exposed freely to air and light and that he used to have the stump projecting beyond the bedclothes in front of a window, and that under these conditions the wound very rarely suppurated. I believe that if we were to practise aseptic surgery and to treat our wounds at the present day in this manner we should obtain even better results, but unfortunately it would be impossible in any city to obtain pure air and it would in other ways be quite impracticable in our hospitals. The next best thing would be to seal up our wounds hermetically with some material which is aseptic and which is gas and fluid proof and upon which we can apply as much pressure as may be necessary. If such a substance were transparent I think it would be an ideal dressing.

During the last 12 months, through the kindness of Mr. Walter Reid, managing director of the Velvril Company, I have been using thin films of a substance known as "Velvril" as a wound dressing and I have so far applied it to over 100 wounds with very excellent results. Velvril is one of the many cellulose derivatives and can be produced cheaply in the form of films of any thickness in several ways. When in the form of a film it has the following characteristics. It is transparent, but slightly yellow in colour, it is absolutely impermeable to all ordinary gases and fluids, it is tough and elastic and very durable, it can be easily sterilised by any of the ordinary methods, and it can be immersed in boiling water for a long time without undergoing any permanent change. It can also be easily dissolved in acetone and its solution in that fluid is quite unirritating even when in contact with a freshly made wound. The solution is, from its method of manufacture, absolutely sterile. After making various experiments I find the following method of using the film and solution gives uniformly perfect results. It is, of course, assumed that the usual precautions relating to the sterilisation of the skin of the patient and that of the operator's hands and of all instruments, towels or cloths, sponges, and swabs, have been fully adopted.

When the operation has been completed a piece of the sterilised velvril film is cut large enough to cover the wound and the skin round it for at least one inch in each direction. If a drain is to be used a sufficient opening is cut in the film to receive the tube or plug. The wound must be as dry as possible and if ordinary methods do not suffice to check capillary oozing, washing out the wound with 50 per cent. of alcohol and sterile water will be found very efficacious. The piece of film should be placed upon a boiled cloth or towel until required for use. Should the exposed surface of the film become accidentally moistened it should be gently wiped with a piece of dry sterile wool moistened with acetone. When the wound has been sutured it and the skin all round are washed freely with acetone, using dry wool as before. The wound and the skin round it for at least one inch in each direction are then painted with velvril solution, applied freely, and the film is then placed upon it, the exposed surface next the solution. Upon this is placed a pad of sterile dry wool[1] and the whole is bandaged firmly, making as much pressure as may be considered necessary. It is advisable to apply considerable pressure for the first 12 hours or so. The preliminary washing of the skin and wound with acetone is necessary in order to remove all trace of water; the solution and the film then stick so firmly that it is absolutely impossible for any gas or fluid to gain access to the wound. If the film is left to itself it will peel off in from 10 to 12 days bringing the superficial layer of dead epidermal cells with it. A few fibres of the wool adhere to the film, so that if the wound is to be examined

[1] Salicylic wool makes a much better pad than absorbent wool; it is firmer and more elastic.

a moist swab or sponge must be passed over the film when it becomes at once transparent.

When the film is to be removed it is only necessary to place a wet cloth or swab upon it for one or two minutes; if one corner of the film be then raised the whole can be peeled off with ease. This, as a rule, can be done with perfect ease on the fifth day, when the edges of the wound will be found to be perfectly united and the sutures can be removed. A very noticeable point when the film is removed is the perfect manner in which the edges of the skin have united and the clean appearance of the skin round the scar which is represented by a purple streak about the one-twentieth of an inch in diameter. In some cases there may be considerable effusion of blood between the film and the wound, but in few cases has this made any difference to the rapid and perfect healing of the wound.

If a drain is inserted in the wound it is as well to place it at the lower end of the incision and then to apply an absorbent sterile dressing over it. A much better plan is to make a separate skin incision for the drainage-tube or plug of gauze as far from the wound as possible. In some situations it is not possible to exert much or any pressure on the wound. In such circumstances there may be a large amount of blood plasma or serum collecting beneath the film, but much more commonly beneath the skin. This has occurred in a few of my cases, but the fluid has generally been absorbed in a few days and has only necessitated the film being left on for a few days longer.

It may be said that such a film dressing is inapplicable on uneven surfaces, as, for example, the axilla after an operation for removing glands, but with a little manipulative dexterity it will be found to be easy of application even here and much safer than the ordinary dressing.

When the sutures have been removed from the wound it should be washed with carbolic lotion (1 in 40) followed by a little acetone to remove the water. Each stitch hole may then be painted over with a little velvril solution. It is safer again to apply wool and bandage to protect the scar from injury for a few days. In the case of a perfectly dry wound the film may be left exposed to the air. It is, however, safer to apply wool and bandage as the patient is apt to scratch his wound while he is semi-conscious from the effects of the anæsthetic. As a rule the patient feels none of that irritation which is often experienced during the healing of a wound under an ordinary dressing.

Though various kinds of films have been used for dressing wounds I believe that it has never been possible to keep a wound hermetically sealed for any length of time with any of them. I have elsewhere[2] pointed out that alcohol applied locally to a wound possesses several marked advantages over other germicides more generally in use; its power of checking capillary oozing is only one of them. When a velvril film has been applied to a small wound which is bleeding freely, according to the method above indicated, some blood will escape from beneath the film for a few minutes in some instances. This is due to the fact that the solution and the film in contact with it have not had time to adhere to the skin and wound. If, however, pressure be steadily maintained for a few minutes the film will, even in such disadvantageous circumstances, be found to adhere firmly and to remain adherent. I have verified this over and over again in the case of small wounds on my own hands and it has always succeeded perfectly well. I have had some remarkable results when experimenting with the solution and film in the case of septic wounds, such as abscesses, boils, &c., all acute inflammatory conditions seeming to abate very rapidly under the influence of the substance. Whether these results are due to the solvent, to the velvril itself, or to the exclusion of air, I have not determined. I hope to refer again to this matter at a later date. I must thank Mr. Reid and the Velvril Company for the help which they have given me while experimenting with velvril and for the amount of trouble which they have taken in preparing it in the form of films ready for use surgically.

Velvril is a very remarkable substance and I think it may soon entirely supersede protective (oil-silk) thin mackintosh and gum-elastic in surgical practice. In commerce it is now being used very largely for a great number of different purposes and in various trades. It is practically indestructible and constant in composition at all ordinary temperatures.

Grosvenor-street, W.

[2] Phonograph Record of Clinical Teaching in 1898, vol. iv., p. 138.

THE RESTORATION OF THE INFERIOR TURBINATE BODY BY PARAFFIN INJECTIONS IN THE TREATMENT OF ATROPHIC RHINITIS.

BY R. LAKE, F.R.C.S. ENG.,

SURGEON LARYNGOLOGIST TO THE MOUNT VERNON HOSPITAL FOR CONSUMPTION; SURGEON TO THE ROYAL EAR HOSPITAL.

IN the early part of 1902 I showed before the Laryngological Society of London[1] a case of bilateral atrophic rhinitis in which the inferior turbinate bones which had undergone absorption had been restored by the submucous injection of melted paraffin wax. Two months later Brindel of Bordeaux showed a series of ten cases which had been treated by the same method. Since then I have treated several cases successfully, others with partial success. In August, 1902, a paper was communicated to the Belgian medical press by Dr. P. J. Mink of Deventer, in which he details a series of very interesting experiments demonstrating the function of the inferior turbinate bone and its importance in respiration. At the conclusion of the paper Dr. Mink remarks that the value of the inferior turbinate was so great and its importance in the economy so marked that he considered it might be necessary to attempt to replace this structure when destroyed by disease—as, for example, in cases of atrophic rhinitis. On seeing a report of my case Dr. Mink very kindly drew my attention to his paper. It is entitled "The Nose as an Air Passage," and in it he points out that in normal circumstances the pressure in the naso-pharynx during respiration is equal to a column of about eight cubic millimetres of water; whilst anterior to the turbinates the pressure is only four millimetres; and that after cocainisation of the inferior turbinate the pressure in the naso-pharynx falls to four cubic millimetres. From this he drew the conclusion that the inferior turbinate should be considered to exert a physiological resistance during expiration. He considered that such a resistance was extremely valuable in the oxygenisation of blood in the lungs, because the value of an expiration depends on its duration and to some extent on the resistance. This opinion he bases on the experience of Valentine who found that the relations between CO_2 and O in the expired air become raised from 1 : 1·18 to 1 : 1·31 when a normal expiration is replaced by a very short one. It was for these reasons he deprecated the removal of the inferior turbinate and expressed the above-mentioned opinion as to restoring it.

I had not made any experiments myself with regard to the value of the inferior turbinate bone from the point of view of the general physiology; I had worked upon the theory that the absorption of the inferior turbinate bones was not entirely due to atrophic rhinitis *per se* but that the formation and shrinkage of the crusts which are so freely formed in this disease were largely instrumental in the destruction of these bones and that if this body were restored by the injection of paraffin it would resist crust formation should that still continue. If, however, the crust formation had been checked these artificial turbinates would remain and serve at least some useful purposes. These were that, by reducing the nasal passage to its normal width, the patients would again be aware of nasal respiration being carried out, the loss of which sensation is often severely felt by them, and at the same time this constriction would render the removal of discharge by irrigation easier and enable the air current to exercise its physiological benefits on the nasal mucosa, for I believe that the friction caused by the passage of air through the nose is most beneficial in maintaining the parts in their normal condition. To these Dr. Mink has now added a third theoretical reason and we have the testimony also of Brindel as to the value of the treatment. Brindel's work in this matter was not only independent of mine but probably even commenced earlier, and it was accident alone which caused my case to appear first in the medical press. Brindel states in his report that there are certain cases in which he has been unable to inject the paraffin. I have also found these cases. They are cases in which the disease is well advanced, in which there is practically no

[1] Transactions of the Laryngological Society of London, March, 1902.

trace of an inferior turbinate body left, and in which the atrophied muco-periosteum is stretched tightly over the outer nasal wall, and when one attempts to inject wax into this attenuated fragment of inferior turbinate the needle either passes completely through or, after a few minims have been injected, the mucous membrane gives way and no lodgment of wax is obtained. To say, however, that it is impossible to inject such noses is, I believe, rather overstating the case, for patience and perseverance will eventually enable the surgeon to inject a few minims either into some part of the turbinate itself or under the tissues adjacent, from which the process of lifting the periosteum from the bone, once started, may gradually be continued into the turbinate itself, although the results obtained in these cases are only very moderately satisfactory.

The wax used for this purpose should be white paraffin wax melted at 105° F. This is better than wax melting at a higher temperature mixed with vaseline to reduce the melting point, as has been advocated for similar work, as the vaseline seems to be more easily absorbable by the tissues than the paraffin. Non-absorption is essential if it can be obtained. The syringe required should hold about 30 minims, and the most serviceable length of needle is about two and a half inches. My larger needle is about one-sixteenth of an inch in external diameter and the smaller one of the size of a large hypodermic needle. The needle should screw on to the syringe on account of the great resistance which has to be overcome in forcing the wax down the needle. The syringe and needle should be wrapped round with a spiral of iron wire which is attached to the galvano-cautery snare, by means of which the whole needle and syringe can be kept hot and the wax prevented from solidifying, as was originally suggested by Walker Downie. I keep the wax melting in a water bath and fill the syringe (previously thoroughly warmed over a spirit lamp) and then screw on the needle. The patient's nasal mucous membrane should as far as possible be rendered anæsthetic by cocaine or eucaine. The needle is inserted so as to allow of its being pushed along under the mucous membrane of the inferior turbinate, or what remains of the structure, according to the degree of atrophy present. As much paraffin is now injected as possible, the wax being kept fluid by heating the wire attached to the galvano-cautery snare. The needle may be withdrawn after waiting for about one minute to allow the wax to set. In very suitable cases I have replaced the turbinate with one injection of about 25 minims of melted wax. In other cases it is necessary to inject several minims every week.

As a result of the restoration of the turbinate in these cases the patients express themselves as being far more comfortable, of feeling the air passing through their noses, and the formation of crusts has not recurred in cases where it had been checked before injecting, and the crust formation has been more rapidly checked in cases where it was still present. Whatever the origin of this most obscure disease really is I firmly believe that in this treatment we have a means of assisting to check its progress if used sufficiently early and of restoring to relative comfort many of those in whom the disease is well established and whose nasal cavities have lost all resemblance to the normal.

Harley-street, W.

THE VARIABILITY IN VIRULENCE OF THE PNEUMOCOCCUS.

BY H. SINIGAR, M.D., B.S. LOND., D.P.H., &C.,

MEDICAL OFFICER, MARYLEBONE SCHOOLS, SOUTHALL; LATE SENIOR ASSISTANT MEDICAL OFFICER, LEAVESDEN ASYLUM.

THE late Dr. J. W. Washbourn in the Croonian Lectures on the Natural History and Pathology of Pneumonia[1] referred at length to the variability in the virulence of different strains of pneumococci and quoted numerous illustrative experiments by himself and others. One would expect, however, an organism grown artificially with such difficulty as the pneumococcus to show great variability in laboratory experiments. I therefore thought that a short account of an epidemic which occurred last winter amongst the staff and patients of Leavesden Asylum would be of interest, as it seems to me to furnish clinical evidence of variability in virulence of the pneumococcus under natural conditions.

The first case which attracted attention was that of a male patient whose illness dated from Nov. 30th, 1901, when a left basal pneumonia commenced. I saw him after he had been ill about three weeks and he then still had signs of consolidation of the left lower lobe. His general condition was bad and a microscopic examination of his sputum, which was frothy and muco-purulent, was made. No tubercle bacilli were found, but there were large numbers of capsulated diplococci present, which in their staining and morphology presented all the characters of the pneumococcus of Talamon-Fränkel. The man remained in an asthenic condition, his cough persisted, and the physical signs at the left base did not improve. Film preparations of his sputum were frequently examined, crowds of pneumococci were always found, and tubercle bacilli were always absent. A month later it was noted that the pneumococci began to assume a streptococcal character in that long spiral chains, containing 20 or more cocci, occurred; the diplococcal nature of the elements of the chain could, however, always be demonstrated.

On Jan. 7th, 1902, sickness appeared amongst the male attendants, the symptoms in the early cases consisting of headache and pains in the back and limbs, accompanied by a slight rise of temperature. The acute symptoms lasted two or three days and much resembled ordinary catarrh. Several cases occurred within a few days and it was then thought that an epidemic of influenza was beginning. These early illnesses were certainly very like the indefinite cases of influenza so common in recent years, but prostration was not very marked and convalescence was rapid and uneventful. There was little or no cough in the earliest cases, but pharyngeal and bronchial catarrh were common in the later cases, with expectoration of scanty and viscid mucus, in which on examination pneumococci were found in large numbers, whilst influenza bacilli were never discovered. Sickness next appeared amongst the female attendants and in the majority of cases the illness was of an influenzal type. Cough was now a more frequent symptom and the expectoration from these cases, scanty and viscid, was likewise found to contain no influenza bacilli but was swarming with pneumococci. Examination of the chest revealed no definite signs in the early cases, but signs of bronchial catarrh were found in most of the later cases; one nurse, however, had a small area of pneumonic consolidation and another—one of the last nurses to be attacked—developed a typical apical pneumonia which ran an ordinary course and from which she convalesced well.

At the end of January the female patients were attacked, six women becoming suddenly ill with rise of temperature, pains all over, and marked prostration. One case began with a rigor, one with vomiting, and another with profuse diarrhœa. Three of the women first attacked developed a cough with frothy sputum, and in these cases resonance was impaired and coarse crepitations were heard over the bases of the lungs. During the next week four fresh cases occurred; in all the onset was sudden; in three of the cases there were physical signs of patchy consolidation of the lung, whilst the fourth was a true lobar pneumonia which was followed by empyema and was fatal. In the next week 20 cases occurred, 15 of which were cases of lobar pneumonia, the remaining five cases consisting of a short pyrexial illness with pains in the back and limbs, slight cough, and signs of bronchial catarrh; even in two of these instances resonance was impaired over the bases and the respirations were quickened. Of the 15 cases of pneumonia 12 were fatal. In the next week 13 women were attacked, nine being cases of lobar pneumonia with four deaths, whilst the other four were ill for a few days only with pains and rise of temperature. During these three weeks several cases of illness, exactly similar in all respects, occurred amongst the male patients, six of whom died from pneumonia.

The epidemic subsided suddenly at the end of February. Frequent microscopic examinations of sputum from many of the cases were made and in every preparation pneumococci were present in large numbers; smear preparations of the lungs from the fatal cases, and also from the pus in the case of empyema, showed the same result. The gradually increasing severity of the cases was very marked, the maximum virulence being reached about the middle of February, when one woman, previously strong and healthy, became unconscious in 24 hours and was dead within 48

[1] THE LANCET, Nov. 15th, 1902, et seq.

hours of the onset of her illness. So densely crowded were the pneumococci in films made from the sputum in this case that it seemed reasonable to assume that quite an appreciable part of her sputum must have consisted of pneumococci.

It was not possible to make microscopic preparations from every patient, but pneumococci were present in large numbers in all the cases examined. The virulence of the pneumococci from the early cases of illness amongst the staff was not tested, but a mouse inoculated with sputum from one of the patients at the end of January died in 18 hours from pneumococcal septicæmia. Although the chain of evidence from a bacteriological point of view is not absolutely complete, yet the sequence of events was so very definite that we felt convinced that we were dealing with a pneumococcal epidemic amongst the staff, at first of low virulence, causing a short indefinite illness much resembling influenza, gradually increasing in severity, and then causing a more protracted illness with occasional bronchial symptoms and culminating in a case of lobar pneumonia in a nurse. By the time the female patients were attacked its virulence was such that pulmonary symptoms were most in evidence and the short vague illnesses were few; even at this time, however, the pulmonary signs were those of patchy consolidation only. When the maximum virulence was reached most of the cases were true lobar pneumonias with a high mortality. Altogether 13 nurses, 17 male attendants, and 43 female patients were attacked; the exact number of male patients attacked was not recorded. A careful investigation failed to reveal evidence of direct contagion amongst the female patients.

To Leavesden Asylum the epidemic is, I think, of great importance, since for the past few years tuberculosis has been rife amongst the patients of that institution. It is easy enough to imagine how well last winter's epidemic will have prepared the soil for the tubercle bacillus, for in the majority of the non-fatal cases tardy convalescence, with delayed and incomplete resolution of the lungs, was noted.

Another point of interest lies in the short vague illnesses which occurred all through the epidemic but which especially characterised its early stages. Everyone is familiar with the short illness which is so glibly called "influenza," and which every medical man knows is not influenza. Is it not possible that the pneumococcus may be the cause of some of these illnesses? We assume that a non-pathogenic organism can acquire virulence under certain conditions with which we are not yet exactly familiar; if that is true, it is not unreasonable to assume that there may be a transition stage of moderate virulence, and it seems to me quite possible that the pneumococcus, in the course of its transition from a harmless resident of the mouth or nose to a virulent pathogenic organism, may exist for a time as an organism of moderate pathogenic powers, and whilst in this state may be capable of causing an illness such as occurred at the commencement of this epidemic.

I have to thank Dr. F. A. Elkins, medical superintendent of Leavesden Asylum, for permission to record these facts, and Dr. J. F. Rimmer for bringing the cases of illness amongst the staff under my notice.

Southall.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Rise of Blood Pressure in Later Life.

A MEETING of this society was held on Jan. 13th, Mr. ALFRED WILLETT, the President, being in the chair.

Professor T. CLIFFORD ALLBUTT read a paper on the Rise of Blood Pressure in Later Life. He said it was inevitable that in the growth of medicine a static morbid anatomy should precede the study of morbid processes or clinical dynamics. Nevertheless, occupation with the ruins of the dead body for a time took observers away from origins to consummations and created a certain fatalism in medicine. The revolution in thought which followed the publication of "The Origin of Species" extended its influence into pathology; diseases began to lose fixity of form in the mind of the physician, and the hope of detecting and neutralising morbid processes at their sources relieved the despair of the dead-house. Of certain early deviations from the true balance of functions it might be said that, if they did not arise primarily in the circulation, yet that in this system the first evidence of them might be perceived. Of such evidence the fluctuations of arterial blood pressure were very important. In the present paper changes of pressure in the direction of increase would be considered and that mode of it which in many elderly persons was apt to be persistent. The rise of pressure in Bright's disease was perhaps the best-known instance of such a rise, but the change was by no means confined to that disease. Some degrees of fibrosis of the kidneys, as of other parts, were to be found in a large majority of necropsies upon elderly persons, but "granular kidney" had peculiar clinical characters and must have its own niche in nosology. It was generally assumed that arterial disease was necessarily attended with a rise of blood pressure, many kinds of arterial disease being comprehended or confused under the title "arterio-sclerosis." Such was far from being the case; it was not true of many of the acuter affections of the arterial tree, and in many of the more chronic, even of the involutionary kind, however extreme, a high blood pressure was conspicuously absent. The more senile forms of arterial disease might then be divided, from the present point of view, into those in which pressure was raised and those in which it was normal or even low. The first kind—those with high pressure—tended to death by apoplexy; the latter tended, often after length of years, rather to obliterative changes in the cerebral arteries with softening. Pressure must depend upon two antecedents, singly or in combination—namely, diminution of the calibre of the arterial system and increased viscosity of the blood; it was not proved, or even probable, that loss of elasticity in the vessels always or generally led to loss of capacity. Encroachment upon capacity in some areas was apt to be compensated by dilatation in others. Professor Allbutt suggested that the tendency to rise of pressure, often seen in elderly persons, especially in such as had led a sedentary life with positive or relative excess of food, depended on increase of viscosity of the blood. Circumstances had hitherto defeated his attempts to gauge the viscosity in a series of appropriate cases. In contrast with the rising pressure of many elderly men might be set the low pressures in the young and athletic. In temperate and active men under 30 or 35 years of age the pressure ranged from 95 to 105 millimetres Hg (Hill and Barnard's sphygmometer.). If the opinion here expressed that the arterial tree was prone to be "self strained," and that arterio-sclerosis was a result rather than a cause of high pressure, the tendency to such rises and their causes should be watched. There was no definite reason to allege that a rise of this kind was to be regarded as of the nature of gout, whatever gout might be, though it might well depend on some perversion of assimilation or excretion having an affinity to gout. If the morbid tendency to rise of pressure was detected in time the disposition was remediable, chiefly by deobstruent, dietetic, and gymnastic means, some such change of habits of life being of course permanently imposed upon the patient; if, on the other hand, it was not detected till the strain had resulted in a new "set" of the vascular tissues, if palliation was possible cure was out of the question. Hitherto it had been difficult to measure blood pressures; and finger estimates very properly had not commanded a ready acceptance; the personal equation of the observer entered too far into such observations. Now, however, they had useful instruments for the purpose invented by von Basch, Hill and Barnard, and Oliver; Professor Allbutt had used that of Hill and Barnard.

Sir WILLIAM BROADBENT said that in general he was in agreement with the paper, though he considered it necessary to have some definite understanding of what was meant by the rise of blood pressure in later life. Professor Allbutt had noted the marked effect which emotion had in producing a rise of blood pressure and there were many other conditions which temporarily produced a like effect. The registration of the blood pressure in the radial artery would not distinguish between a fugitive and permanent rise of pressure, as, for instance, in the two conditions aortic regurgitation and advanced arterial disease. The real cause of high blood-pressure was the obstruction to the flow of blood in the small arteries or in the capillary network. He considered that the obstruction was probably in the capillary network and he knew of no other explanation for the occurrence of miliary aneurysms of the smaller arteries unless they were produced by the

obstruction to the flow of blood in the capillaries beyond. He thought that this condition of rise of blood pressure was not confined to the later period of life, for it was not infrequently seen in the schoolboy and often in men under 30 years of age. He said that in a large majority of cases of high blood pressure there was no kidney disease and he was of the opinion that it was a blood condition which gave rise to the resistance in the peripheral vessels and also to the renal disease. When, however, the renal disease was established the condition was accentuated, since toxic substances failed to be excreted by the kidney. The peripheral resistance was often due to contraction of the muscular fibres in the small vessels and this was well shown by the immediate effect which was produced by nitro-glycerine. He then referred to the effects of syphilis on the arterial system and said that the disease affected the larger and smaller vessels at the same time; he thought that aneurysms were rare in Bright's disease and in cases of high arterial tension which were independent of syphilis.

Dr. ALEXANDER HAIG said that some years ago he had made experiments of injecting uric acid into animals but the results had always been indefinite. From 15 to 20 grains were injected into animals and then the whole of the blood was collected. When the uric acid was estimated in this it was found that there was no increase over the amount normally present. The probable explanation of this fact was that the uric acid was taken up by the liver. He stated that the return of circulation in the skin after pressure was twice as slow in a person on meat diet as it was in a person on a vegetable diet, and this fact showed that there was a contraction of the finer vessels.

Dr. G. NEWTON PITT said that he thought it was generally recognised that high arterial pressure preceded arterial degeneration and cardiac hypertrophy. In a case of chronic Bright's disease the nitrogen in the ingesta and excreta had been carefully investigated by Dr. H. S French and had been found to be practically equal. It would seem therefore that the vascular degeneration could not be due to an increased nitrogenous substance in the blood.

Dr. H. D. ROLLESTON said that among the interesting questions raised by Professor Allbutt two were especially important. First, the relation of high blood-pressure to arterio sclerosis, which had already been fully dealt with; and secondly, the relation of kidney disease to arterial disease. No doubt tubal nephritis might lead to increased blood-pressure and so to degeneration of the muscular coat and the compensatory process of chronic endarteritis. The gradual alteration of a large white kidney into a small white kidney was due to arterio-sclerotic changes in the vessels which diminished the blood-supply to certain portions of the kidney substance and fibrosis resulted in those portions from which the blood had been cut off.

Professor ALLBUTT replied.

MEDICAL SOCIETY OF LONDON.

Suppression of Urine in a Case of Ovarian Tumour and Pregnancy.—Etiology of Emphysema from the Physical Standpoint.

A MEETING of this society was held on Jan. 12th, Mr. A. PEARCE GOULD, the President, being in the chair.

Mr. H. B. BOULTER (Richmond) presented to the society the Fothergillian medal awarded to the late Dr. Robert Willan in 1790, which had been given to Mr. Boulter for presentation to the Medical Society of London by a descendant of Dr. Willan.—The PRESIDENT expressed the thanks of the society for this valuable and interesting gift, and remarked that this was the second Fothergillian medal awarded; the first was awarded in 1787 to Dr. Falconer and the third was awarded in 1791 to Dr. C. Lettsom.

Mr. BERNARD PITTS read the notes of a case of Suppression of Urine associated with Ovarian Tumour and Pregnancy. He remarked that anuria in a case of non-malignant tumour was very rare. The patient was a married woman, aged 44 years, who had had seven children. About three and a half years before the operation a lump appeared in the abdomen and gradually increased in size. When she consulted Dr. M. C. Ward about three years later the tumour had increased immensely, being hard in some parts and fluctuating in others. The patient subsequently became pregnant and the symptoms more urgent. After admission suppression of urine gradually supervened and finally the urine became completely suppressed for some 36 hours. Mr. Pitts operated and found a large multilocular ovarian tumour. It was necessary to remove the uterus in order to effect the eradication of the tumour. The urinary secretion was at once restored and the urine gradually became normal both in quality and quantity. The pressure of the tumour had evidently been directly upon the kidneys in the upper part of the abdomen. The real interest of the case depended upon the anuria which complicated the case, and Mr. Pitts discussed the causes of anuria other than pressure on the ureters.—The PRESIDENT said that there could be no doubt that the right line of treatment had been adopted and he approved the extra-peritoneal method of hysterectomy in this case. As to the cause of the anuria, he suggested that it might have been due to pressure both on the kidneys and on the ureters and renal vessels.—Dr. WARD remarked that he had known the patient for some years and noted the fact that she had been at work up to a few weeks before the operation almost without inconvenience. He believed that the tumour removed, together with the uterus, weighed some 85 or 90 pounds.

Dr. B. J. COLLINGWOOD made a communication on the Etiology of Emphysema from the Physical Standpoint. An attempt was made in this paper to bring about a compromise between the expiratory and the inspiratory theories of the causation of emphysema. It was suggested that emphysema in the protected parts of the lungs was due to inspiration and in the unprotected to expiration. Two causes were given for the production of the disease in both the protected and the unprotected parts—namely, weakness of the elastic tissue of the lungs and over-straining of the elastic tissue. Both causes resulted in the production of a vicious circle, for either weakness or over-straining of the elastic tissue would lead to its over-distension and consequent further weakening. The following facts were adduced in support of the view that emphysema in the protected parts of the lungs was due to inspiration: (1) the position of the chest in emphysema was one of extreme inspiration, a result which could not be brought about by any form of expiration; (2) emphysema was a markedly progressive disease, but if it were produced by expirations the further emphysema advanced the less power would they possess, for more and more difficulty was experienced in producing expiration; and (3) emphysema was more marked at the periphery than at the centre of the lungs, but the periphery was the part most directly compressed by expiration. It was pointed out that violent expiratory efforts against an obstruction could not produce emphysema in protected parts of the lungs, for during such efforts the protected parts were slightly contracted. Although it was difficult to decide which parts of the lungs were unprotected yet it was certain that such parts formed only a small proportion of the whole lung. A general emphysema accordingly must be mostly inspiratory in origin. Compensatory emphysema was stated to be due to inspirations of normal depth but excessive strength, causing hyperdistension of the pulmonary infundibula when some neighbouring infundibula owing to disease were incapable of expansion. Experiments were shown illustrating this as well as other points in the communication. A method of treatment for general emphysema was suggested which consisted in supplying some elastic support to the thorax. It was urged that this would prove beneficial by aiding expiration and preventing excessive inspiration.—Dr. P. HORTON-SMITH congratulated Dr. Collingwood upon his painstaking researches. The combination of the inspiratory and expiratory theories of emphysema explained many of the clinical facts observed in that affection which one of them alone could not. The causal explanation appeared to him to differ in the protected and unprotected parts of the lung.—Dr. A. G. AULD could not altogether agree with the inspiratory theory suggested by Dr. Collingwood, and he referred to "glass-blower's emphysema." He could not believe that experiments with an indiarubber bag could be made to reproduce all the conditions of the pulmonary alveoli.—Dr. H. A. CALEY remarked that they must differentiate between the protected and the unprotected parts of the lung. It had always appeared to him that the commonly accepted expiratory theory could not explain the occurrence of emphysema in both the protected and in the unprotected parts of the lung. The dual theory appeared more reasonable. He had seen Dr. Collingwood's experiments in the laboratory with rabbits' lungs and they had produced

the same results as those now exhibited with india-rubber balls. He was disposed to lay great stress on primary degenerative changes in the elastic tissue of the lungs. While, as Dr. Collingwood stated, the element of mechanical strain might be the exciting cause and impaired elasticity only a predisposing cause, it would appear that in many cases the predisposing cause—impaired elasticity—was pathologically the more important.—Dr. COLLINGWOOD, in reply, said that he did not mean to imply that the only cause of emphysema was a diminished elasticity of the chest wall.

CLINICAL SOCIETY OF LONDON.

The Morbid Anatomy and Treatment of Congenital Dislocation of the Hip-Joint.—A Case of Hæmorrhagic Typhoid Fever.—A Case of Generalised Miliary Tuberculosis with Acute Synovitis.

A MEETING of this society was held on Jan. 9th, Mr. HOWARD MARSH, the President, being in the chair.

Mr. T. H. OPENSHAW, C.M.G., made a communication on the Morbid Anatomy and Treatment of Congenital Dislocation of the Hip-joint, based on 70 cases which he had observed and upon nine of which he had operated. Mr. Openshaw commenced by showing a recent specimen of congenital hip dislocation obtained from a girl, aged five years, who had died from bronchial pneumonia, which he described. The head of the bone was normal in shape with the exception of a small area of flattening at the lower end and back part. The neck of the femur presented no abnormality. These appearances entirely accorded with what Mr. Openshaw had found by operation. In his experience, in every case an acetabulum existed, but it was small, shallow, and triangular, and the cartilage forming its floor was thicker than normal. In his opinion, the head of the femur up to the age of three years remained normal. It then became flattened at one part, and this flattening gradually extended over the whole surface, and thus the head of the bone became deformed and, as the result of subsequent osteo-arthritic change, it ultimately disappeared. The ligamentum teres he had hitherto considered to be absent, but, he added, it was quite possible he might have overlooked a thin flaccid band such as existed in the specimen which he submitted. The children did not usually walk till the second year but no symptoms were noticed in them. In some cases the condition appeared to be hereditary but the etiology was obscure. Mr. Openshaw advocated one of two methods of treatment: (1) reduction of the shortening by tenotomy and extension and then reposition, so-called, of the head of the bone by manipulation as practised by Lorenz; or (2) the remaking of an acetabulum by the open method after it had become possible to replace the bone by tenotomy and manipulation. As the result of his experience in about 20 cases treated by the first method during the past six years he considered, first, that reposition within the joint was an impossibility, and, secondly, that redislocation was exceedingly common. He strongly advised the two methods combined and showed two cases where he had operated with excellent results. He pointed out that if the shortening was overcome first the shock of the operation was slight and a fatal result need never be anticipated, and that if any open operation were advisable that of deepening the acetabulum was the only one to be entertained.—Mr. J. JACKSON CLARKE remarked that the specimen shown by Mr. Openshaw resembled very closely what he had found in the newly-born infant. He had operated in about 20 cases by the Lorenz method and in only one instance had he failed to obtain a good result. In some of the cases there seemed to be almost complete reposition allowing for the arrest of growth and the consequent inevitable shortening. In the one case of failure the child was suffering from spastic paralysis which had not been recognised, so that the failure was explained.—Mr. NOBLE SMITH pointed out that Lorenz, who had at first employed the open method of operation, had finally abandoned it. Mr. Noble Smith advocated the manipulative method, dividing the operation into two stages, by which means he believed the amount of force required to effect replacement was much reduced. To retain the bone in its place plaster-of-Paris had several disadvantages and he advocated the use of an apparatus. He asked what proportion of Mr. Openshaw's cases were due to breech presentation.—The PRESIDENT urged that in discussing this question they should bear in mind the various facts worked out in connexion with its pathology, and he called attention to a valuable paper contributed by Mr. F. F. Burghard to the *British Medical Journal* in 1891, giving the results of his very exact anatomical investigations. That author referred to the hour-glass contraction of the capsule which offered an obstacle to reduction and which was probably due to the ilio-psoas tendon. The head of the bone was often in an upper pouch of the capsule, above the acetabulum proper, from which it was shut off by an isthmus. Mr. Burghard found that division of the ilio-psoas tendon allowed of the easy replacement of the head of the femur. The President suggested that a committee should be appointed to investigate and to report on the subject, but he admitted that such a committee would be confronted with the difficulty of deciding what the condition had been before operation, so that it would be desirable for it to watch cases from the beginning. He himself was not prepared to assert that in all Mr. Openshaw's cases the head of the bone had really been returned into the acetabulum proper. He did not believe in treatment by simple extension; the best result obtainable in many cases was bony ankylosis. The subsequent history of these cases was often wanting. He mentioned that he had once been called to see a young woman who turned out to be the very patient whose case had previously been extensively reported as an instance of cure by long extension at the hands of a late well-known surgeon, but, as a matter of fact, it was clearly a case of unaltered unreduced congenital dislocation.—Mr. OPENSHAW, in reply, maintained that it was not only the ilio-psoas tendon that was at fault, the capsule as a whole being contracted.

Dr. E. W. GOODALL communicated a case of Hæmorrhagic Typhoid Fever. The patient was a hospital nurse, aged 26 years. After being out of sorts for a week she noticed on Jan. 20th some purpuric spots on her legs and it was found that her temperature was 104° F. Within the next few days a considerable number of purpuric and petechial spots appeared in the skin and subcutaneous tissue and there was bleeding from the fauces and gums, together with epistaxis, hæmatemesis, hæmaturia, metrorrhagia, and melæna. There was continued pyrexia but no rose spots and the spleen was not enlarged. The patient gradually sank and died at the end of a fortnight from the appearance of the purpura. A post-mortem examination revealed typhoid ulcers in the small intestine and hæmorrhages into the stomach, peritoneum, bladder, and right kidney. In the kidney were also a number of small yellow spots which under the microscope proved to be masses of round cells surrounding clumps of bacilli, probably bacillus coli. The blood gave only a feeble serum reaction. An agar culture taken from the heart blood gave bacillus coli, while those taken from the spleen and a mesenteric gland gave bacillus coli and bacillus typhosus. The case was reported because of the difficulty that attended the diagnosis and also because of its rarity. The diagnosis made was acute bacterial infection, perhaps streptococcal, and it was not till two or three days before death that typhoid fever was suspected. The rarity of the case was shown by the fact that it was the only marked one of its kind in a series of 1733 cases of typhoid fever. The pathology of these cases was obscure; probably the purpura was due to the action of bacteria or their toxins, in this case perhaps the bacillus coli. In a similar case reported by Dr. A. G. Nicholls and Mr. G. E. Learmonth[1] in THE LANCET the organism concerned appeared to be the staphylococcus pyogenes albus. In the present case calcium chloride and adrenalin chloride were given without avail.—Dr. W. LEE DICKINSON referred to two similar cases, both in confirmed alcoholics, reported by American authors, and mentioned one of the same kind which he had observed at St. George's Hospital. The patient was a woman, aged 29 years, who bled from almost every mucous surface. He recalled the statements recently made by Dr. A. E. Wright before the Royal Medical and Chirurgical Society to the effect that in the acute stage of typhoid fever the coagulability of the blood was hindered, whereas in the later stages it was abnormally increased, thereby disposing to the formation of clots. That observer also stated that alcohol diminished the tendency of the blood to coagulate.—Dr. W. COODE ADAMS mentioned a case which he had observed during an epidemic in North London. The patient developed patches of purpura over the limbs and trunk, but she recovered. There could be no question of deficient nutrition

[1] THE LANCET, Feb. 2nd, 1901, p. 305.

or alcohol in this case.—Dr. GOODALL, in reply, observed that such cases were fortunately rare, seeing that they usually proved fatal. He thought alcohol could be excluded in his case, and it was not given medicinally until long after the symptoms had developed.

Dr. H. D. ROLLESTON read the notes of a case of Generalised Miliary Tuberculosis with Acute Synovitis. The patient was a man, aged 52 years, who was admitted to St. George's Hospital, after two weeks' illness with a temperature of 103° F., in a semi-delirious condition, and with painful and swollen joints. At first, under salicylates, the pain diminished and the temperature fell, but shortly this effect was lost. There were no physical signs of any importance, except widespread tenderness, and the patient became more prostrate and delirious and died five days after admission. The diagnosis during life lay between generalised tuberculosis, severe typhoid fever, and some pyæmic state. The general condition suggested tuberculosis, but the arthritic manifestations made some other form of hæmic affection more probable. At the necropsy, except for synovitis, nothing definite was found; no tubercle could be seen. Pieces of the lungs and spleen, after being hardened, were seen, even by the naked eye, to be riddled with miliary tubercles. The association of generalised tuberculosis with acute synovitis of several joints was a very rare condition and might lead to an erroneous diagnosis of acute rheumatism. Another point of clinical interest was the widespread tenderness.—Dr. J. KINGSTON FOWLER mentioned the case of a girl who had a cavity in one lung and who suddenly developed acute synovitis of the wrist-joint. He thought that in Dr. Rolleston's case there must have been some other concurrent affection because if the joint affection were really due to tuberculosis they would expect to meet with it more frequently.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.

Discussion on Tuberculous Peritonitis.

A MEETING of this society was held on Dec. 12th, 1902, when Tuberculous Peritonitis was discussed, various portions of the subject being introduced by various speakers.

Dr. EDMUND CAUTLEY touched lightly upon numerous questions, from the liability of the individual to invasion by the tubercle bacillus to the special modes of entrance of the bacillus into the peritoneum. The speaker remarked that since the tubercle bacillus is so extremely common a vulnerability to the microbe must play as important a part in the etiology of the disease as exposure to the possibility of infection. A farmer did not erect screens to keep out the seeds of weeds, he cultivated his land in a way which was ill-suited to their growth. To fortify the body, therefore, by good food and good clothing was as necessary as more direct war against the tubercle bacillus. How far peritoneal tuberculosis might be due to invasion by the bacillus of bovine tuberculosis Dr. Cautley considered to be still an open question.

Dr. THEODORE FISHER (Bristol) followed with a few facts in connexion with the morbid anatomy gathered from examination of the post-mortem records of 80 cases which clinically had been examples of abdominal disease. He prefaced his remarks by saying that although he did not doubt that tuberculosis might arise primarily in the abdomen it was easy to overlook a single diseased bronchial gland, and he gave instances of early infection of the abdomen where the only tuberculous focus which could be found was a solitary caseous lymphatic gland lying hidden in one of the lungs. Of the 80 cases examined the adhesive variety proved to be by far the most common in the post-mortem room, though in many of these at some time of life fluid had been present. Suppurating caseous masses had opened into the intestines in eight cases and in five others ulcers had perforated. Localised collections of fluid were present in five instances, and in two of these there had been discharge of the fluid at the umbilicus. In only two instances was it stated that the great omentum was sufficiently thickened to have formed a tumour. Intestinal ulcers were present in about half the cases. The Fallopian tubes or ovaries were diseased in five cases of adult women, but the majority of instances were in young children. Although cases did not appear to be common in the post-mortem room where after middle life evidence of old extensive tuberculous disease of the peritoneum was present, if one could argue from analogy the frequency with which general adhesion of a pleural cavity of tuberculous nature was found after middle life would lead one to think that when the disease was limited to the abdomen recovery might be permanent. In these 80 cases the lungs were free from disease in 17 and the tubercles were limited to the pleuræ in seven. Although in the remainder the lungs were diseased in some the lesions were recent and those of older standing were not often extensive.

Dr. W. C. CHAFFEY (Brighton) gave a few of the results of an analysis of 118 cases of tuberculosis in children. Tubercle of the peritoneum was present in 45. Of these 45 cases the disease was chronic in 22, in 13 of these 22 chronic cases intestinal ulcers were present and in 17 the lungs were diseased. In the 23 cases of recent tuberculosis of the peritoneum the lungs were affected in every instance.

Dr. JAMES BARR (Liverpool) then dealt with the diagnosis. The most striking feature was swelling of the abdomen, which, however, might be moderate in degree. Pain was generally absent in the early stages, but there was occasionally some tenderness. At first the appetite might be good and there might be little indication of ill-health, but as the abdomen increased in size the appetite was lost, the patient wasted, and colicky pains associated with constipation might be added, which pains, however, might be removed by diarrhœa, only to return with a return of the constipation. The temperature rarely rose above 101° F. and might be normal or subnormal in the morning. These remarks applied especially to the ascitic variety. In the adhesive form there were various degrees of resistance to be felt in several places over the abdomen and the thickened omentum as a sausage-shaped mass might occasionally be felt. Localised collections of fluid when present were generally in the lower half of the abdomen. In cases in which emaciation had been very marked improvement rarely took place, but Dr. Barr had seen recovery after the bursting of an abscess at the umbilicus and also in a case when a fæcal fistula had formed in the same situation. At times there might be difficulty in differentiating tuberculous peritonitis from typhoid fever, from ascites associated with cirrhosis of the liver, or from a simple chronic peritonitis. As a rule, however, patience and careful observation soon settled the diagnosis, but Dr. Barr had found injection of some of the peritoneal fluid into guinea-pigs to be useful.

Dr. GEORGE CARPENTER had seen a large number of cases of tuberculous peritonitis and briefly referred to many. He laid especial stress upon the value of combined rectal and abdominal examination as an aid to diagnosis in doubtful cases.

Dr. J. PORTER PARKINSON remarked that on looking over the notes of 22 cases he had been struck with the somewhat rapid onset. The average history of 19 cases extended over three and a half weeks. Dr. Parkinson thought the occasional presence of enlarged veins over the upper half of the abdomen worthy of note and suggested some interference with the portal circulation. An interesting case of colloid carcinoma of the peritoneum occurring in a girl, aged 12 years, was referred to which clinically could not be distinguished from tuberculous peritonitis.

Dr. G. A. SUTHERLAND then read a paper upon the prognosis of the disease. The following were his conclusions: 1. In uncomplicated tuberculous peritonitis the prognosis was good. 2. When tuberculous pleurisy was present the prognosis was still favourable. 3. The prognosis was rendered less favourable in the case of (*a*) a strong family history of tuberculosis; (*b*) an infancy passed under bad hygienic and dietetic conditions; (*c*) a constitution of feeble resistant power; and (*d*) a history of severe infective illness in early life. 4. The prognosis was rendered less favourable in the presence of one or more of the following symptoms: continuous pyrexia, rapid wasting, persistent diarrhœa, rapid pulse, and recurrent acute exacerbations. 5. The prognosis was rendered less favourable in the presence of one or more of the following local complications: (*a*) tuberculous ulceration of the bowel; (*b*) extensive caseation of the mesenteric glands or of tuberculous masses; (*c*) localised suppuration from infection through glands or the intestine; and (*d*) obstructive symptoms from bands or matting of the intestine. 6. The prognosis was bad in the case of the following complications: (*a*) rupture of a suppurating gland or the perforation of an intestinal ulcer into the peritoneal cavity; (*b*) pulmonary tuberculosis; (*c*) tuberculous meningitis; and (*d*) general miliary tuberculosis. 7. In tuberculous peritonitis the prognosis was not appreciably affected by laparotomy. Much of the paper dealt with the last conclusion. At one time Dr. Sutherland

had been an advocate of laparotomy, but further experience had convinced him that it had no effect upon the course of the disease. More cases had recovered at the Paddington Green Children's Hospital under medical than under surgical treatment.

A communication from Dr. JAMES CARMICHAEL (Edinburgh) stated that there had been only nine deaths in 48 cases which had been under his care; 13 of these cases had been kept under observation for a prolonged period and remained in good health.

Dr. ROBERT HUTCHISON thought that a clear distinction must be drawn between cases where the disease was limited to the abdomen and those in which it was more widespread. Possibly the abdominal tuberculosis might be bovine in nature and less serious than the human variety. All cases of ascites in children were not necessarily tuberculous in nature. Some of those which recovered might be instances of a simple chronic peritonitis.

Dr. LEONARD G. GUTHRIE read a paper on the medical treatment. He thought that in the opinion of some surgeons the discussion of anything connected with tuberculous peritonitis except surgical interference would be mere waste of time. Dr. Guthrie, however, thought that it was probable that the surgeons might learn something from Ambroise Paré who during a campaign had ran short of boiling oil and could not sleep one night for thinking of the sad plight of the wounded in consequence. Much to his surprise, however, he found the following day that they were much better without it. If cases of tuberculous peritonitis were watched instead of being operated upon with the majority it happened that they did well. The surgeons might say that the cases in which recovery took place were not tuberculous, but Dr. Guthrie thought that it was a little hard that the physician should be right when he called the surgeon in and wrong when he did not. Possibly the letting out of fluid was beneficial, but Dr. Guthrie considered that in acute cases, unless the fluid produced great distension and distress, it was inadvisable to interfere, for if the fluid was removed it would speedily reaccumulate. In more chronic cases, however, where the fluid showed no tendency to subside it should be withdrawn. Tapping or aspiration was dangerous and a small incision followed by a blunt trocar should be used. While, however, the value of laparotomy, except in some cases where complications arose, was doubtful, the use of remedies such as mercury and arsenic was a matter of opinion. The treatment was mainly symptomatic with rest in bed, and after recovery hygienic. Some cases were greatly benefited by the fresh-air treatment.

Mr. W. WATSON CHEYNE thought when he heard of the change of front of the physicians that they had discovered some new remedy, but he found that it was only that they had come to realise that tuberculous peritonitis was curable. For that discovery they had to thank the surgeons, since six years ago he had been unable to find any statistics bearing upon the prognosis. The discovery by the surgeons was no doubt the result of accidents made in cases where the diagnosis had been doubtful or mistaken, but the fact remained that the physicians were indebted to the surgeons for their knowledge on this point. As to the comparison of statistics of cases medically and surgically treated Mr. Cheyne believed that the worst cases were taken to the surgeon, so that no comparison could be made. While he wished to keep an open mind on the subject he could not yet admit that laparotomy was of no value. Mr. Cheyne admitted that it was difficult to understand how laparotomy could be beneficial, but it possibly altered the tension of the circulation and thus gave indirectly a stimulus to reparative changes.

Mr. F. C. ABBOTT thought the cases particularly benefited by operation to be those which started in diseased Fallopian tubes or ovaries, and Dr. R. H. A. WHITELOCKE (Oxford) expressed similar views.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—Prolapse of the Urethra.

A MEETING of this society was held on Dec. 19th, 1902, Dr. S. BUCKLEY (Manchester), the President, being in the chair.

Dr. D. LLOYD ROBERTS (Manchester) showed a specimen of a Papilliferous Cystadenoma removed from the Abdominal Wall 14 years after Ovariotomy. The patient, who was a married woman, aged 48 years, a VII.-para, and whose last child had been born four years previously, had noted a lump in the abdomen for about six months. It was steadily increasing. The left ovary had been removed for cystic tumour 14 years previously. The tumour was felt just to the left of the cicatrix left by the former operation. It was attached to the abdominal wall but was freely moveable otherwise. It felt hard but resonance was only slightly diminished over its surface. The abdomen was opened and about three pints of ascitic fluid escaped. The tumour was found to be attached to the cicatrix and was intimately connected with the parietal peritoneum. Some coils of intestine adhered to the under surface and required separation. The cyst was carefully detached and removed. There was no pedicle. The right ovary was healthy and there was no trace of the left ovary which had been removed 14 years before. The patient recovered. The specimen was described as a papilliferous cystadenoma of the subperitoneal tissues of the abdominal wall. The structure closely resembling that commonly occurring in the ovary suggested that the growth was secondary to the ovarian tumour previously removed.

The PRESIDENT showed a large Fibromyoma and Cystic Ovaries removed by abdominal section. The operation was undertaken in consequence of the severe pain, especially on the left side, which had existed for two or three years. There had recently been an increased menstrual flow but this increase had not been sufficient to intertere with nutrition. When the abdomen was opened a large fibroid was found attached by a short broad pedicle to the fundus uteri. The growth was removed by myomectomy as were also two smaller fibroids from the anterior surface of the uterus. The ovaries were found to be cystic and were of the size of large walnuts. They were adherent and wedged between the tumour and the uterus, and after separation were removed together with the tubes. It was probable that the severe pain had been chiefly due to the condition of the ovaries and to their compression by the growth. The patient recovered well and is free from pain.

Dr. W. WALTER (Manchester) showed a Solid Ovarian Tumour removed from a patient, aged 58 years. The swelling had been noticed about three years, but during the last 12 months it had increased more rapidly and the presence of ascites had become obvious. There was no loss of flesh or cachexia, but the patient's three sisters had all suffered from abdominal tumours. The tumour had a short pedicle and was so closely adherent to the back of the uterus that the signs were those of a uterine tumour rather than of an ovarian tumour. The ascitic fluid was reddish and amounted to about two pints. The other ovary was cystic and contained a small fibroid nodule. The microscopical sections showed the growth to be a simple fibroma with commencing myxomatous degeneration. The patient made a good recovery. The difficulty of diagnosis and prognosis in solid ovarian tumours was discussed.—Dr. Walter also showed an ovarian cyst with a twisted pedicle.

Dr. H. BRIGGS (Liverpool) showed: 1. A small Ovarian Cyst (2¼ inches by 4¼ inches) associated with metrostaxis and retro-uterine hæmorrhage. 2 A Fundal Fibroid Polypus and Inverted Uterus. The uterus and growth had been successfully removed by vaginal hysterectomy. The patient having passed the menopause no attempt was made to save the uterus. Reposition of the uterus after removal of the polypus would no donbt have been impossible. 3. An early Cancer of the Cervix Uteri.

Dr. ARNOLD W. W. LEA (Manchester) related a case of Acute Prolapse of the Urethra. Owing to the œdematous and strangulated condition of the prolapsed mass it was found necessary to resect this part of the urethral mucous membrane. The result was completely satisfactory. The cause of the condition was obscure. There was a little cystitis, but this was probably not present before the attack. Masturbation was suspected.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 2nd, Mr. Rickard W. Lloyd, the President, being in the chair.—Dr. Neville T. Wood read a paper on the Treatment of Chronic Heart Weakness by Baths and Exercises in Family Practice. Chronic heart failure might, he said, be divided into four stages: (1) a period when compensation was efficient; (2) a stage when the heart worked well under favourable conditions but failed under those of medium stress; (3) when the circulation was

never quite efficient and a slight stress might turn the scale; and (4) when cardiac enfeeblement was extreme and irremediable. In the first stage, as a rule, no treatment was necessary except a general warning against over-strain, but occasionally there might be excessive arterial tension or excessive pulse-rate. Such symptoms might well be treated by the method to be described. In the second stage baths and exercises held the place of pre-eminence. The earlier the treatment was begun in this stage the greater the value of mechanical methods. In the third stage mechanical methods tended to become useless and finally were contra-indicated while drugs might still retain their potency. The application of mechanico-balneological treatment by the family physician was advocated because he was more likely to see the patient at the time when it was of greatest value. Where cardiac dilatation and arterial tension were prominent relief must be afforded by arterial relaxation. In cases of less severity gentle stimulation might be adopted. These effects could be brought about by varying the temperature, composition, and duration of the baths. A temperature of from 92° to 95° F. produced moderate dilatation of the vessels, with slowing of the pulse-rate. When the temperature was lowered to 85° contraction of the peripheral vessels was caused, with great increase in the force of ventricular systole, the total effect being one of stimulation. The most useful constituents of the bath were the chlorides of sodium and calcium and carbonic acid gas. The greater the proportion of these the greater the stimulating effect. The duration of the bath should be longer when a sedative action was required. When the first indication was heart relief, to a bath of 50 gallons five pounds of common salt should be added and five ounces of calcium chloride, together with half the contents of one of Sandow's boxes. The bath was to be given at 95° and lasted about 15 minutes; the patient then remained recumbent for two hours. After a few days the temperature was gradually reduced to 92°, while the proportion of saline constituents was doubled. As the patients improved stimulating treatment was introduced by lowering the temperature of the bath still further and increasing the added solids. Very gradually the temperature of the bath was lowered to 85° and the strength of the saline solution was increased to 6 per cent. Beyond this it was rarely necessary to go. Systematic exercises were chiefly of service in the early part of the second stage or when relief had already been obtained from baths. They could be carried out without a specially trained assistant by the following method. Instead of the reversal of each exercise being a continuation of the initial part an intermediate pause was introduced. Thus the first portion was made to last 15 seconds, the part moved was retained in the position it had reached for five seconds, and the reversal was made to occupy 15 seconds. In very muscular subjects extremely light weights might be placed in the hands. The pulse was counted immediately before the exercises and again after three minutes had elapsed, by which time its rate should have fallen. This was the simplest test as to the prospective value of the exercises. During the exercises the breathing should be even and continuous. Instead of the Nauheim exercises a system of weights and pulleys might be used. At the end of a series of exercises it was well to examine the area of cardiac dulness and the position of the apex beat. If the area of dulness was enlarged it might be taken that the dosage was too high. The cases which benefited most were those of moderate dilatation, accompanied, and in great part caused, by general malnutrition. Cases presenting minor degrees of arterio-sclerosis might be accepted for treatment. In supposed cardiac neuroses, such as tachycardia and arhythmia, the patients often did well. There were many failures among elderly persons. Cases in which the imagination alone was at fault should not be treated as they certainly detracted from the reputation of the method.—Dr. C. W. Chapman said that the patients suitable for Nauheim treatment were (1) convalescents from acute cardiac disease after prolonged rest had been taken; (2) patients presenting cardiac symptoms, but devoid of organic disease; (3) patients in the early stages of cardio-vascular degeneration; and (4) the large class known as neurotics. The treatment was contra-indicated in: (1) all advanced cases of heart disease; (2) marked cases of cardio-vascular disease, especially with albuminuria; and (3) the labouring classes, who required rest above all things.—Dr. A. Morison, Dr. F. H. Alderson, and Dr. A. J. R. Oxley also spoke.—Dr. Otto F. F. Grünbaum read a paper on the Value of Examination of the Blood as an Aid to Diagnosis and Prognosis. He said that an increase in the number of white cells accompanied many forms of malignant disease, nearly all fevers, and extensive formation of pus, but when pus was present there was generally also an increase in blood platelets and in the amount of fibrin. In certain doubtful cases of syphilis the method introduced by Justus might assist the diagnosis. Justus found that in this disease, as soon as the lymphatic glands were affected, the intravenous or intramuscular injection of mercury caused the disintegration of a considerable number of red cells. This disintegration was detected by estimating the hæmoglobin of the patient's blood. When the reaction to the injection was positive, a fall of from 10 to 20 per cent. of hæmoglobin would be noted within 48 hours, returning to the normal a few days later. After a few injections the percentage ceased to fall and ultimately it might actually increase. The reaction did not occur when mercury was given by the mouth. Cryoscopy, or the estimation of the freezing-point of blood, might be of use in supplying information as to the state of the kidneys. In renal disease the quantity of salts and of urea in the blood was greater than normal. The greater the amount of these substances in the blood the lower would be its freezing-point. The average freezing-point of normal human blood was – 0·56° C.; if it fell to – 0·6° C., or lower, grave doubts as to the efficiency of the kidneys must be entertained. Reference was also made to the estimation of choline in the blood, to agglutination reactions, and to the examination of the blood for micro-organisms. It was also pointed out that, except in leukæmia and certain parasitic diseases, no diagnosis could be founded on the examination of the blood alone.—Dr. A. Whitfield said that he had used Justus's test in a number of cases of syphilis and had only found it fail once. He instanced a patient in whom the symptoms were so slight that diagnosis was not easy. Finding that a drop of from 12 to 15 per cent. in the hæmoglobin took place in 24 hours after inunction with mercury, he adopted the usual treatment. There was ultimately a very severe attack. The test was only of use in cases which had reached general constitutional infection and had not recently been under treatment with mercury.

BRITISH GYNÆCOLOGICAL SOCIETY.—The annual meeting of this society was held on Jan. 8th, Sir J. Halliday Croom, the President, being in the chair.—The Fellows elected to succeed the retiring officers were as follows:—President: Dr. Heywood Smith. Vice-Presidents: Mr. E. Stanmore Bishop, Dr. H. Macnaughton-Jones, Dr. J. A. Mansell Moullin, Mr. Christopher Martin, and Dr. F. F. Schacht. Members of the council: Mr. G. Roe Carter, Dr. Eber Chambers, Sir J. Halliday Croom, Dr. F. Edge, Dr. Clement Godson, Mr. A. W. Mayo Robson, Mr. Charles Ryall, and Dr. R. T. Smith. Secretary: Dr. S. Jervois Aarons.—Dr. J. J. Macan read his report upon the journal of the society, which was accepted with the thanks of the society to him for his services as editor.—Dr. Macnaughton-Jones read notes of cases of (1) Binovular Pregnancy and Birth of Female Twins after Salpingo-oöphorectomy and Resection of the other Ovary; and (2) Repeated Pregnancies after Salpingo-oöphorectomy and Ventrofixation of the Uterus. The patient had two uncomplicated labours, the children being healthy, but a third pregnancy ended in a miscarriage.—Dr. Heywood Smith and the President commented on the cases.—Dr. William Duncan exhibited a very large Sarcoma of the Uterus removed by abdominal hysterectomy eight years after an uncomplicated menopause; the tumour, detected ten years previously, had increased gradually till six months before the operation when rapid growth took place with loss of flesh and strength in the patient. At the operation a cavity was opened from which escaped a clear odourless fluid; being taken to be a cyst it was freely incised, but it proved to be the urinary bladder, drawn about three inches above the navel by the tumour. The incision was closed by a single layer of silk sutures supplemented by a few finer stitches through the peritoneal coat, and the fundus of the elongated organ was fixed to the abdominal wall just above the pubes. The tumour after much difficulty was got out of the abdomen and amputated. When the posterior layers of the broad ligaments had been united from behind forwards a cavity as large as an adult head was left above the small cervical stump; this cavity was marsupialised to the lower part of the abdominal wound and lightly packed with gauze. Little blood was lost and the patient stood the operation, which lasted an hour and three

quarters, well and made an uneventful recovery. Her urine, drawn off every three hours, was blood-stained for three or four days, as was the gauze from the cavity in the broad ligaments, but she was well enough five weeks after the operation to be sent to a convalescent home.—Dr. Bedford Fenwick pointed out the valuable information to be gained by passing a vesical sound when operating on large tumours and for large cavities in the broad ligaments he recommended complete closure above and drainage through the vagina.—Dr. Herbert Snow said that the microscopic section proved that the tumour was sarcomatous, but the duration for ten years suggested that it was the result of degeneration of a fibroid.—Mr. F. Bowreman Jessett had found a catgut suture of the mucous membrane with Halsted's suture of the peritoneum an efficient way of closing wounds of the bladder, for which he did not think more than two layers were required, but he would have preferred to introduce in this case, as he was in the habit of doing in all his vaginal hysterectomies, a self-retaining catheter, to spare the patient the annoyance of the repeated passage of an instrument.—Dr. Macnaughton-Jones did not consider that vaginal drainage of such a cavity as the one described was desirable if complete hæmostasis could be secured.—Dr. Duncan replied.—The President delivered his valedictory address. Specialism, he pointed out, not only had great advantages, but was now absolutely necessary on account of the vastness of the field opened to the medical profession by the increase in scientific knowledge due to new and improved methods of research. Whatever the future of gynæcology might be it had made more substantial progress than any other branch of surgery. He could understand the position of those who held that as absolute diagnosis was often impossible until the abdomen had been opened the operating gynæcologist must be a skilled abdominal surgeon, and that if a general surgeon was to do hysterectomy a gynæcologist might perform gastrotomy. But the difficulty was where the line was to be drawn if gynæcology was to remain a specialty. The tendency at present was to ignore the medical element in gynæcology, but even on its surgical side its proper field was the genito-urinary tract. In Edinburgh he and his colleagues professed obstetrics and the diseases of women, and he held that to be the reasonable position for gynæcologists to adopt.

ABERDEEN UNIVERSITY MEDICAL SOCIETY.—At a meeting of this society held on Jan. 9th, Professor J. T. Cash presiding, a very interesting and lucid paper on Anæsthesia, Past and Present, was given by Professor J. A. MacWilliam. Sir Humphry Davy advised the use of nitrous oxide for small cases where there was not too much bleeding without giving any reason for the reservation. Chloroform began by paralysing the higher centres and worked downwards, but certain centres were exempt—vaso motor, respiratory, &c.—and on this fact depended the possibility of anæsthesia. Localised anæsthesia of blood going from the lungs to the heart was caused, say, by the patient taking a few rapid breaths, so that a quantity of chloroform, harmless when uniformly spread over the circulation, might, when localised, prove fatal. The best way of administering chloroform was to put the patient partially under, then to let him come out, and then to place him under it again. The administrator should always allow a good deal of air to be inhaled at the same time. Idiosyncrasy affected its influence—cats, which closely resembled the human subject in many ways, could not in some cases be killed by chloroform, though, of course, they were deeply anæsthetised. They had to consider more than one symptom in cases of collapse. If respiration failed artificial respiration was enough. If the heart was paralysed squeezing the heart rhythmically with the hand was a powerful remedy in the case of a cat; in one human subject recently the heart was successfully squeezed through the diaphragm.—Dr. J. Scott Riddell said that severe bleeding accompanied throat operations under nitrous oxide anæsthesia. Out of 10,000 chloroform operations he had seen, only five deaths had occurred. He strongly advocated the special course on anæsthesia which was to be given at the Infirmary.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held on Jan. 12th, the President, Dr. A. E. Maylard, being in the chair. Dr. Henry Rutherfurd showed (1) a child operated on for Intussusception at the age of three months; and (2) a child showing Scars of Intra-uterine Small-pox and Deformities probably due to the same cause, and read notes of the cases.—Dr. John H. Treacher gave a lantern and microscopical demonstration of Chorionepithelioma (deciduoma malignum of authors) and of Chorionepitheliomatous and Hydatidiform Mole-like Structures in Teratomata of the Testis. The latter part was from preparations the gift of Dr. Schlagenhaufer of Vienna, Dr. Schmorl of Dresden, and Professor Marchand of Leipsic. Dr. Treacher also gave a short account of the opinions held as to these tumours.—Dr. J. Kerr Love and Dr. J. W. Leitch showed a specimen of Aneurysm of the Aorta in which death occurred from rupture of the heart and read notes of the case.—Dr. J. K. Kelly read notes and showed a specimen and microscopic sections of Sarcomatous Disease of the Uterus and Right Ovary, with Adeno-cystoma of the Left Ovary, removed from a patient, aged 66 years.—The following exhibits were on view during the meeting—by Dr. R. S. Thomson and Dr. Robert Fullarton, (1) Water-colour drawings illustrative of the Prodromal Rashes of Variola, &c, and (2) photographs illustrating various phases of the Variolar Eruption; by Dr. John Brownlee, a microscopical demonstration illustrating certain features of the Variolar Eruption; and by Dr. T. K. Monro, a Water-colour Drawing by Dr. A. J. Ballantyne representing Severe Scrofuloderma.

EDINBURGH ROYAL MEDICAL SOCIETY.—A meeting of this society was held on Jan. 9th, Dr. S. A. K. Wilson being in the chair.—A paper on Ectopic Gestation was read by Dr. M. Holmes. The paper was illustrated by four cases which had been treated lately in the Edinburgh Royal Infirmary. He emphasised strongly the value of getting a correct history in diagnosing such cases. In two of the cases the patients were not operated on and they had made a good recovery.—Dr. A. H. Firth read notes of the following cases: 1. A case pointing to Circulatory Embarrassment. After being in hospital some time the patient died suddenly. A section of the liver and also a section of the lung were exhibited. The former showed marked chronic venous congestion and the latter silicosis. 2. A case with symptoms pointing to Lung Trouble. The post-mortem examination demonstrated a sacculated aneurysm of the arch of the aorta.—A communication on Intestinal Obstruction in the Child by Dr. Hey was read in his absence by Mr. Nutt.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Jan. 9th, Dr. Thomas G. Stevens, the President, being in the chair.—The President read a paper on Uterine Prolapse. He said that the causes of prolapsus lay in the weakening of the pelvic floor through laceration of the levatores ani and undue stretching of the ligaments of the uterus during confinement. At the labour's completion or within the next three months the surgeon could cure the prolapsus but later than this time cure could only be expected by a radical operation, such as amputation of the cervix uteri, curetting the uterus and repairing the perineum. When prolapse of the uterus occurred in virgins it was usually associated with anæmia and was due to some intra-abdominal extra pressure. He advocated in the early cases repair of the perineum, the use of a vaginal glycerine plug to excite vaginal secretion, to induce uterine involution and to stimulate the levatores ani, rest in bed, and the application of a firm perineal pad.

BIRKENHEAD MEDICAL SOCIETY.—A meeting of this society was held on Jan. 9th, Mr. G. S. Stansfield (in the absence of the President) being in the chair.—Dr. J. Herbert Dixon drew attention to the working of the Vaccination Act, in view of the probability of its being modified next year. He proposed the following motions, which were seconded by Dr. J. Lambert and unanimously agreed to:—

1. That the post of public vaccinator should be abolished and that every registered medical practitioner should be paid by the constituted authority for vaccinations performed.
2. That the names of all children, for whom at the age of four months the necessary certificate is not forthcoming, should be handed by the vaccination officer to the parish medical officer for the district in which such children are resident, who should vaccinate them and be paid at the same rate as other practitioners.
3. That lymph should be supplied by the Government.
4. That the conscientious objector's clause should be abolished.

BRISTOL MEDICAL CHARITIES.—The employés of Messrs. W. and H. Wills contributed £457 in 1902 to the Bristol medical charities. The employés of Messrs. E. and A. Robinson contributed £285 for the same object.

Reviews and Notices of Books.

An Essay on Laughter: its Forms, its Causes, its Development, and its Value. By JAMES SULLY, M.A., LL.D. London: Longmans, Green, and Co. 1902. Pp. 441. Price 12*s.* 6*d.* net.

PROFESSOR SULLY has produced a searching and interesting work upon a very inviting theme. It is not to be expected that a psychological essay should be anything but solid merely because it deals with a light subject—laughter. Our lightest actions, our most trivial movements, our least serious ideas, become matters of solemn moment when they are regarded in the light of evolution of modes of expression or when from them it is attempted to deduce the foundations and the course of action and speech and thought in general. Nevertheless, in this essay on laughter, among much serious and perhaps at times laboured consideration of emotions and expressions themselves anything but serious, the author has managed to introduce an appropriate anecdote or two and a spice of the humorous which come as an unhoped-for oasis of amusement in a psychological work dealing with laughter. Professor Sully is a laughter lover. This is as plainly shown in the way in which he seizes any opportunity of treating a subject with humour as it is actually demonstrated in his text. Medical readers will have no difficulty in supporting his contentions as to the physical benefits derived from open hearty laughter. They will also be interested in the associations that the author makes between the physical and the psychical conditions involved in laughing. The question is treated from the evolutionary standpoint in this book and perhaps its most interesting passages are those relating to the laughter of children and of savages, and to the questions of laughter or allied expressions in animals such as apes and dogs. In the examination of laughter on a wider basis, the "choral laughter," as Professor Sully calls it, many pregnant observations are made upon the social groups into which a civilised community becomes differentiated and, generally speaking, we find ourselves better pleased with the writer's manner and grasp of his subject when he is dealing with broad considerations such as these than when he is involved in a minute investigation of some individual mental attitude. We read with greater pleasure the explanation of culture groups in a community and the way in which laughter is evolved from among them than we did, for instance, the detailed examination of the "hat comedy"—the comedy wherein a father in his child's hat and a child in his father's hat are under comparison as laughter-raisers.

LIBRARY TABLE.

Lectures on the Use of Massage and Early Passive Movements in Recent Fractures and other Common Surgical Injuries, the Treatment of Internal Derangement of the Knee-joint, and the Management of Stiff Joints. By Sir W. H. BENNETT, K.C.V.O., F.R.C.S. Eng., Senior Surgeon to St. George's Hospital, Member of the Court of Examiners, Royal College of Surgeons of England, &c. Second edition, with 17 illustrations. London, New York, and Bombay: Longmans, Green, and Co. 1902. Pp. 115. Price 6*s.*—The value of massage in the treatment of recent fractures was first pointed out by Lucas Championnière, but the practice received little support in this country until Sir William Bennett advocated its adoption. There is no better account than that contained in this work of the method of carrying out the treatment of fractures by means of massage. The massage is combined with early passive movement and with what is called "internal massage"—that is to say, the voluntary movement of the muscles which lie about the fractured bone. We commend the treatment to all those who have not tried it and we venture to say that they will be surprised at the early mobility obtained and the absence of adhesions. Of course, the method must be employed with care if the best results are to be secured. The volume also contains an interesting lecture on Internal Derangement of the Knee-joint with its treatment and a lecture on the Treatment of Stiff Joints by Forcible Manipulation; and the author gives a skiagram of a knee in which forcible flexion produced fracture close to the joint. This chapter is certainly of value and affords important information on a subject which is but scantily dealt with in the text-books.

Operations-Vademecum für den Praktischen Arzt. (*A Vademecum for Operations.*) Von Dr. EDMUND LESER, Professor an der Universität Halle-a-S., Mitglied der Kaiserlichen Leopoldino-Carolinischen Deutschen Akademie der Naturforscher. Mit 84 zum Theil farbigen Abbildungen. Zweite vermehrte und verbesserte Auflage. Berlin: S. Karger. 1902. Pp. 186. Price 5 marks.—This little volume is intended to assist those surgeons to perform operations who may suddenly be called upon and yet have had little or no previous experience in operating. In the case of each operation there is first a list of the instruments required and then a somewhat brief account of the procedure. In many cases very useful practical hints are given. Many diagrams are provided and some of them are useful. We may specially mention those illustrating the operation for hare-lip and other plastic operations on the face. In these the incisions required are marked in red, thus showing very clearly what has to be done. Photography has been largely used in the preparation of the illustrations and generally with success, but some are less happy; for instance, Fig. 6 is intended to show the operation of ligature of the brachial artery at the bend of the elbow; this figure is useless, as really nothing can be seen.

The Treatment of Fractures. By CHARLES LOCKE SCUDDER, M.D., Assistant in Clinical and Operative Surgery, Harvard University Medical School, Surgeon to the Out-patient Department, Massachusetts General Hospital. Third edition, thoroughly revised, with 645 Illustrations. London and Philadelphia: W. B. Saunders and Co. 1902. Pp. 485. Price 19*s.* net.—In THE LANCET of June 22nd, 1901, p. 1766, we noticed at some length the second edition of this work and we then drew attention to the lavish supply of illustrations. In the present issue the illustrations have been increased by 45, while the pages only exceed those in the previous edition by 25. A chapter on Gunshot Fractures of the Long Bones has been added and the author has incorporated in his description many facts and illustrations from Mr. Makins's "Surgical Experiences in South Africa." This is a valuable account of the effects of the small-bore bullet. Thus the additions to the volume, though not very numerous, are of some importance and the work is certainly a clear and trustworthy guide to the treatment of fractures.

Lehrbuch der Hautkrankheiten. (*A Text-book of the Diseases of the Skin.*) Von Professor EDUARD LANG, K.K. Primarartz im allgemeinen Krankenhause in Wien, Mitglied der Kaiserlichen Leopoldinisch-Carolinischen Akademie, &c. Mit 87 Abbildungen im Text. Wiesbaden: Verlag von J. F. Bergmann. Obtainable from F. Bauermeister, Glasgow. 1902. Pp. 655. Price M. 14.60 or 14*s.* 9*d.*—The name of Professor Lang is well known in this country for valuable dermatological work that he has done and therefore a systematic treatise on the diseases of the skin will be sure to meet with appreciation here. This work contains a fairly full account of dermatology and appears from its arrangement and size to be very suitable for the use of students and medical practitioners who

wish to have a general knowledge of the subject and a convenient work of reference. For such purposes the descriptions of the diseases and the sections on treatment are amply sufficient, but the absence of references will detract from its value for dermatologists, though indeed it makes no claim to be an exhaustive treatise. There are 87 illustrations; some of these represent histological details, but the majority are reproductions of photographs of patients, and so far as skin diseases can be shown in black and white they are successful. One of the illustrations represents a very severe case of keloid resulting from a burn with sulphuric acid, and another shows the same case after excision, some of the wounds so formed being stitched up and others covered with Theirsch grafts. This case is of interest, as many surgeons hold that excision is useless in keloid recurrence always taking place. Another excellent illustration is one showing a case of psoriasis with conical scabs, "psoriasis ostreacea."

The Hair and its Diseases, including Ringworm, Greyness, and Baldness: an Introductory Handbook. By DAVID WALSH, M.D. Edin., Physician to the Western Skin Hospital. (Medical Monograph Series, No. 6.) London: Baillière, Tindall, and Cox. 1902. Pp. 96. Price 2*s.* 6*d.* net.—There is much that is good in this little book, for it sets forth clearly the manifold microbic dangers to which the scalp and hair are liable and gives useful directions for avoiding the spread of infection, but the general plan of the book and many of the phrases and expressions used seem to indicate that it is intended for the perusal of the layman rather than of the medical man. As "unkempt" simply means uncombed it is somewhat curious to read that "were it not for daily brushing the head would soon become unkempt and full of dust."

Prize Essay on the Erection of a Sanatorium for the Treatment of Tuberculosis in England. By ARTHUR LATHAM, M.D. London: Baillière, Tindall, and Cox. 1903. Price 5*s.*—The essay which gained the first prize among the competing essays for a scheme for the erection of the King's Sanatorium has now been published in separate form by Messrs. Baillière, Tindall, and Cox. The essay as published in a volume is identical, save for the addition of a bibliography, with the essay published in THE LANCET of Jan. 3rd. The bibliography, which is a very complete one, was added with the idea that it might be of some service to His Majesty's Advisory Committee and consists of references to books and articles on sanatoriums and on the sanatorium method of treatment, showing the author's intimate and wide acquaintance with the subject. With the larger type, the side headings, and the varieties in printing which the volume form permits of, Dr. Latham's essay makes a very attractive as well as a very useful little book, while the rapid and excellent production is a matter upon which the publishers must be congratulated. The sanatorium treatment of pulmonary tuberculosis is now the recognised method of dealing with many classes of cases and medical men and public authorities are glad, as we know, of an opportunity of learning what is at the present time considered to be the most effective form of building.

JOURNALS AND MAGAZINES.

Practitioner.—The January number of this periodical introduces a new editor—Dr. W. Cecil Bosanquet—and a new external appearance. We cordially welcome both. The altered form of the journal is certainly to its advantage and it is now a well-printed substantial-looking production with the list of contents readily displayed. As to the contents of this particular number there is no marked change to remark from the usually excellent class of contribution that the *Practitioner* has led us to expect, unless it be in the editorial notes. These are of a character purely professional rather than professionally political as they were wont to be.

New Inventions.

AN IMPROVED MODEL EYE.

THE next best thing to practising retinoscopy and the use of the ophthalmoscope with the human eye is to employ an appliance which almost answers the same purpose. Believing, however, that a model eye completely fulfilling these requirements has so far not been available for practitioners and students, I proceeded some time ago to devote attention to the subject and I now venture to think that the result described below will be helpful in supplying the need indicated. The model itself is an improvement upon a design which has for some years been known in America. It consists of two brass (blackened) cylinders, one of which is fixed on a stand, the other being moveable, sliding backwards and forwards inside the former. On the moveable cylinder is a printed graduated scale by which a maximum of myopia of 6 D. and of hypermetropia of 6 D. can be measured. At one end of the fixed cylinder is a lens of two-inch focus, thus enabling the observer, by altering the position of the moveable cylinder, to produce various degrees of

ametropia. The beginner, for example, might make the model eye myopic to 4 D. and proceed with the lenses taken from an ordinary trial case to estimate the defect; having arrived at the correction he can then ascertain by looking at the graduated scale whether his result corresponds therewith. Furthermore, different lenses are provided with the model, by which various degrees of astigmatism can be created by merely inserting one or other of the lenses in front of the lens in the fixed cylinder. In addition a diaphragm is supplied to be placed in the slot in front of the two-inch lens for the purpose of representing the pupil in an undilated state. For the study of changes in the fundus 17 metal discs are provided, so made as to cover the outer end of the moveable cylinder, each containing an ophthalmoscopic drawing. On the reverse of these discs a number is placed which corresponds with a number on a printed list fixed inside the lid of the box, the idea being that the student should first examine the drawing with the ophthalmoscope in the ordinary way and make a diagnosis of the condition of the fundus depicted before referring to the list.

The following is the list of drawings in question: (1) optic neuritis; (2) posterior staphyloma; (3) coloboma of the choroid; (4) normal eye; (5) retinitis pigmentosa; (6) opaque nerve fibres; (7) syphilitic neuro-retinitis; (8) detachment of the retina; (9) sarcoma of the choroid; (10) advanced chronic glaucoma; (11) sub-hyaloid hæmorrhage; (12) albuminuric retinitis; (13) post-neuritic atrophy; (14) disseminated choroiditis; (15) embolism of the central artery of the retina; (16) rupture of the choroid; and (17) primary atrophy of the optic nerve. The model is

manufactured and supplied by Mr. F. Davidson, optician, 140, Great Portland-street, W., to whom I am much indebted for the skill and care with which my ideas have been carried out. The ophthalmoscopic drawings were all executed by Mrs. Davidson whose artistic talents are well displayed therein, while to Messrs. Bale, Sons, and Danielsson much credit is due for their excellent lithographic reproduction of the drawings. The price of the model is very moderate.

H. PERCY DUNN, F.R.C.S. Eng.,
Ophthalmic Surgeon to the West London Hospital; Lecturer on Ophthalmology at the West London Post-Graduate College. Wimpole-street, W.

MEDICINE AND THE LAW.

Indecent Literature and the Law.

SEVERAL prosecutions have taken place during the opening days of 1903, both in the City of London and elsewhere in the metropolitan district, in which the defendants have been street hawkers who have been fined for selling indecent literature. This might be taken to indicate an awakening of zeal on the part of the authorities on behalf of the public morals, but a perusal of the work objected to hardly bears this out. It consists of a skit upon the new Licensing Act apparently written by a somewhat illiterate person, and although it is unquestionably vulgar without being in the least degree amusing it requires a stretch of the imagination to describe it as indecent. Indeed, the Lord Mayor and another magistrate appear to have felt obliged to lay stress on the fact of the sheet objected to being headed with the Royal arms, the use of which may be illegal but can hardly be indecent within the police court meaning of the term. If the police authorities desire to punish poor men for offences such as these they might well turn their attention to richer ones first. They might, for example, examine the advertisements in cheap periodicals of quack nostrums for the treatment of nervous debility, of lost virility, and venereal diseases, which would be indecent by statute if affixed to the walls of a public latrine and are not, so far as we are aware, rendered more seemly by appearing in the public press. The advertisements of quack abortionists were long tolerated without complaint and have only disappeared because a few of the advertisers themselves have been successfully proceeded against. Even this class of obnoxious, and in our view indecent, advertisement has not entirely vanished and "female remedies" are still occasionally offered with impunity. If, however, they have doubts on the subject of the advertisements themselves the police authorities, at the cost of a few shillings spent in correspondence with the advertisers, might possess themselves of a mass of indecent literature far more likely to corrupt and to ruin ignorant young men and women than the silly broadsheet to which they called unnecessary attention in the cases to which reference has been made above.

The Licensing Act, 1902.

There can be no doubt that the opening sections of the new Licensing Act which refer to drunkenness are being eagerly made use of and that as their provisions become more widely known by means of the police reports frequent recourse will be had to them throughout the country. They concern medical practitioners because they increase the number of offences in which drunkenness is an essential feature and in the trial of which the fact of drunkenness may be disputed and may have to be proved or disproved by medical evidence. Under the new Act a person found drunk and apparently incapable of taking care of himself in a highway or public place may now be apprehended and dealt with according to law. Before the present year such a person was usually taken to the police station in order to secure his own safety, but on the following day he could not technically be taken before the magistrate without first being released and summoned. Persons found drunk in public when in charge of children under seven years of age may now be severely punished and it is not necessary that these should be apparently incapable of taking care of themselves. A married man or woman can obtain from a court of summary jurisdiction an order of separation from a wife or husband by proving that she or he is a habitual drunkard. In cases in which an order of detention under the Inebriates Act, 1898, might be made the magistrate must, whether he makes such an order or not, cause a notice to be sent to the police authority which will have as its result that the person convicted may be punished for obtaining liquor on licensed premises during the next three years and that any person knowingly serving him with liquor may be punished also. The habitual drunkard for the purpose of an order of separation from a wife or husband is defined by the Habitual Drunkards Act of 1879 as "a person who not being amenable to any jurisdiction in lunacy is notwithstanding, by reason of habitual intemperate drinking of intoxicating liquor, at times dangerous to himself or herself or to others, or incapable of managing himself or herself, and his or her affairs." It is as well that attention should be called to this because in one or two instances magistrates before whom separation orders have been sought seem to have been under the impression that the "habitual drunkenness" could only be established by proof of convictions for offences connected with drink. It is easy to see that although medical evidence is not likely to be required very often in the case of the poorest class whose lives are patent to their neighbours and who are less eager to disguise their failings, with regard to those occupying a better position the case is different and medical evidence may be of considerable importance. The instances also that have occurred in the past of the police and public mistaking sudden illness for drunkenness are not likely to become less frequent. It is to be observed that the new Act does not apply to Scotland or Ireland.

Who is to Blame?

It has been stated, with reference to the cases of typhoid fever at Winchester believed to be caused by eating oysters, that the owner of the Emsworth beds, from which the oysters in question apparently came, is threatening an action against the local authority and that he will claim heavy damages from them for the injury done to his trade through the alleged contamination of the oyster beds with sewage matter. It was said at a meeting of the urban district council concerned that the conditions complained of were due to the bringing of the oysters to the sewage, rather than to the bringing of the sewage to the oysters, and it was resolved to defend any action which might be brought. Apart from the questions immediately concerning the parties in this instance the trial of such an action should be watched with attention by those concerned with the public health, as whatever its result may be it can hardly fail to define in a manner highly to be desired the rights and liabilities of local authorities and of the dwellers in their districts with reference to the disposal of sewage matter, both generally and in respect of the discharge of sewage into tidal and other waters.

WINSLEY SANATORIUM.—The Swindon town council has decided to contribute £500 towards the cost of the erection of the sanatorium for consumption at Winsley and to contribute £130 annually towards the maintenance of the institution, provided that two beds are reserved exclusively for cases from Swindon.

ROYAL INSTITUTION.—The course of six Christmas lectures at the Royal Institution was delivered by Professor H. S. Hele-Shaw, professor of engineering in University College, Liverpool, on Dec. 27th and 30th, 1902, and Jan. 1st, 3rd, 6th, and 8th, 1903. These lectures, which are adapted to a juvenile auditory, dealt with Locomotion (1) on the earth; (2) through the water; and (3) in the air. The first lecture was taken up with preliminary considerations relating chiefly to wheels and rails. The second described the various kinds of motor-car for ordinary roads driven either by petrol, steam, or electricity. The third and fourth lectures dealt with vehicles travelling on rails—namely, ordinary railway trains with steam locomotives or electrical locomotives and electrical tramcars. No electrical railway existed 25 years ago; the first one was in Berlin and commenced working in 1879; the first successful one in the United Kingdom was at Portrush in Ireland, the dynamos generating the electricity being driven by water power. A description was also given of the so-called mono-rail, which really consists of five rails—one for supporting the carriages and a pair of rails on each side for steadying them. The fifth and sixth lectures were devoted to various types of steamships, balloons, and flying machines.

THE LANCET.

LONDON: SATURDAY, JANUARY 17, 1903.

St. Bartholomew's Hospital.

CRITICISM of rather lavish kind has been expended upon the affairs of St. Bartholomew's Hospital lately in the columns of more than one newspaper, and to a large extent the articles which we have read have been the easy product of the versatile journalist, in that a broad flow of exaggerated notions has proceeded from a minute source of imperfect knowledge. Such articles need not seriously detain anyone truly interested; and is there any medical man who can fail to be interested in the present position and the future welfare of the oldest and one of the greatest of London hospitals? All medical men know the good work that St. Bartholomew's Hospital, the hospital of ABERNETHY and PAGET, has done, and all will be concerned to learn that so venerable and dignified an institution is, despite its great possessions, about to make an appeal to the public for assistance. Whether this appeal is justifiable has exercised the minds of many during the last week, and the question is a very difficult one to answer. Some writers have been glib with regard to the iniquity of extending hospital accommodation upon land so valuable as that in the heart of the City and with respect to the advantages of removing a City hospital to a site more remote from the centre of London. Unfortunately, their rhetoric shows but too plainly a complete ignorance of the actual work carried on at such a hospital as St. Bartholomew's and only the faintest suspicion of the immense difficulties involved in any considerable change of position for such an institution. Two articles on the position of St. Bartholomew's Hospital, which appeared in the *Times* of Jan. 7th and 8th, are, however, well informed, and these, together with a consequent letter from Sir TREVOR LAWRENCE, the treasurer of the hospital, give a clear and judicious statement of the circumstances which have led to so much rambling discussion.

In the first place even the staunchest supporter of St. Bartholomew's Hospital will grant what has been already freely admitted by Mr. ANTHONY A. BOWLBY and Sir THOMAS SMITH before the House of Lords committee—that there is much overcrowding in many departments at the hospital. The buildings, though finely designed and executed, are excessively old for a hospital and incapable of rising to the best modern requirements of ventilation and sanitation. It is, indeed, because such considerations as these are fully realised by the governors of the hospital that they have gone to the length of expending nearly a quarter of a million of money upon acquiring additional space contiguous to the present hospital. That this sum has been largely provided from the savings of the hospital itself reflects credit upon the administration of the hospital, and is to some extent a justification of an appeal to public charity for power to carry out to the full the proposed additions and improvements. The public may always with propriety be asked to help those who help themselves. If, however, St. Bartholomew's is justified in appealing to the public for large sums of money, the public in turn are equally justified in demanding that for these sums the greatest possible amount of benefit shall accrue. Will that be the case if these sums are expended in maintaining extensions and improvements upon land of almost incomparable value? Might not much more be done, and even better done, upon a site of less extravagant pretensions? Might not a still larger number of patients be as conveniently provided with hospital attention in a less central position? Two reasons for maintaining the hospital in its present position at once suggest themselves. The first is one that is quite obvious, though it has been ignored almost entirely by the critics of St. Bartholomew's Hospital. There is a very large number of emergency cases, both surgical and medical, occurring daily within the City of London and requiring hospital treatment. The public has the vaguest notions of what is meant by a day's work at St. Bartholomew's or any other large London hospital. Half a dozen fractures, a bad burn, two "run-over cases," and a "fall from a ladder" would make no extraordinary history of a morning's casualties received into the accident wards of St. Bartholomew's Hospital. Similarly there are numerous medical emergencies which daily require prompt attention in the City and there can be no question that considerable hospital accommodation is absolutely necessary within the City precincts. Again, it must be remembered that St. Bartholomew's Hospital serves the greater part of northern London. It is the only large hospital for such populous districts as Highbury, Islington, and Clerkenwell, while it is a very accessible institution, having stations of the Metropolitan Railway, of the Central London Railway, and of two or three other railways at its gates. No new site is likely to be as convenient for either the patients or the medical staff as the present site is, and these are matters of prime importance which in all discussions that have come under our eye have been completely ignored. The second reason against a removal of the hospital is based upon what may be termed sentimental grounds. We may dismiss this reason more briefly than it deserves by saying that sentiment where it concerns the traditions of a great medical school as well as a great hospital is something more than an idle abstraction. It plays an actual part in the production of enthusiastic and capable medical men.

But while we are of opinion that St. Bartholomew's Hospital should remain, at any rate for the present, upon its historic site we are quite alive to the difficulties of the situation.[1] The hospital requires, to bring it up to modern standards of what a first-class hospital should be, a new isolation block, new operating theatres, new surgical out-patients' rooms, new quarters for the resident staff and the nurses, new clinical laboratories, and a new mortuary. It has acquired at an immense cost the site whereon to erect these necessary innovations; but, wealthy as it is, it considers that

[1] We recommend all our readers to refer to a letter published in our columns on April 5th, 1902, p. 980, from the pen of Mr. Peyton T. B. Beale. This communication discusses the growing difficulties of the London hospitals in a very interesting manner.

it may fairly ask the public to find the money for the structure. For the proposed course there is this to be said. The governors of the hospital are mostly City men. As the hospital is clearly wanted in the City—of that there is no doubt—why should not the Lord Mayor of the City ask the citizens for the money to keep the institution in their midst at the highest pitch of efficacy? Against the appeal by St. Bartholomew's to the charitable public it must be urged that many other hospitals, notably the London Hospital and Guy's Hospital, are in great financial straits. The endowment of the former is inconsiderable and the income of the latter has dwindled terribly of late years. An appeal to the public from St. Bartholomew's Hospital may undoubtedly tend to divert funds from the London Hospital and Guy's Hospital, neither of which institutions has any other way of obtaining money save by appeals to charity. In these circumstances, while we recognise that St. Bartholomew's Hospital requires the immediate expenditure of a large sum of money upon its fabric to render it a suitable place for the treatment of the sick, we deeply deplore that the governors can make no effort to cope with the financial position out of the great resources of their institution. It seems to us better for the public that St. Bartholomew's should temporarily bear the burden of a debt to the bank than that supplies which are the very life blood of other charities should be jeopardised.

Infective Arthritis.

THE Bradshaw Lecture at the Royal College of Surgeons of England, which was published in our columns on Dec. 16th, 1902 (p. 1603), proved to be a particularly valuable contribution to medical knowledge. Mr. HOWARD MARSH took for his subject certain cases of affections of the joints which do not fall readily into any of the recognised categories of articular disease. In a damp but temperate climate like that of England rheumatism in one or other of its manifestations is an exceedingly common disease and therefore if any obscure affection of the joints is met with there is always a very great probability that it will be classified as "rheumatic," just as in countries where malaria is rife any rise of temperature or disturbance of doubtful origin is put down to malaria. So it has happened that the term "rheumatism" has become extremely wide, as it is applied to many conditions which have no other connexion with true acute rheumatism than that they affect joints.

Mr. MARSH very happily started with a comparison between the peritoneum and the synovial membranes. It is not so very long ago that peritonitis was considered to be often "idiopathic," but now it is recognised that no such condition exists and that peritonitis is microbic in origin. Histologically there is the closest resemblance between the peritoneum and the lining membrane of joints, and pathologically the likeness between these two structures is also very great, and therefore *a priori* we should look for a microbic origin for synovitis and arthritis. In the first part of his lecture Mr. MARSH pointed out that in the great majority of the specific diseases the joints are liable to be infected. This is fully acknowledged with regard to tuberculosis and syphilis and these diseases were therefore not considered further, and ordinary septicæmic infections and gonococcal arthritis were also put aside as too well known to need discussion. The lecturer then discussed seriatim various morbid conditions which are associated with an infective arthritis. He showed that the starting point of our present view was the discovery by WEICHSELBAUM in 1888 that the pneumococcus has the power of producing an acute inflammation of the joints, and a paper by Dr. E. J. CAVE, published in THE LANCET of Jan. 12th, 1901, p. 82, advanced our knowledge greatly; in this article it was pointed out that pneumococcal arthritis generally sets in only a few days after the onset of an acute pneumonia, though occasionally it may precede the pulmonary affection, and in a few cases it has occurred independently of any pneumonia. In a very large proportion of the cases the inflammation went on to suppuration and nearly three-fourths terminated fatally, but this very high mortality is not to be ascribed to the affection of the joints only, for the pneumonia and other inflammations which are present, such as endocarditis and meningitis, are largely responsible for these unfavourable results. Of all the forms of infective arthritis there is probably none worse than that due to the pneumococcus, for it is essentially a septic infection. In typhoid fever, too, affections of the joints are not uncommon. Some of these are examples of ordinary septic arthritis, the streptococci or staphylococci having been absorbed from the surface of the ulcers in the ileum or from bedsores or boils. There is a second form of articular affection in typhoid fever which is apparently due to the presence and direct action of the typhoid bacillus. In these cases suppuration is rare, complete recovery sometimes occurring, while in others fibrous ankylosis results. There is yet a third form of articular affection in enteric fever; it arises early, lasts only a few days, and then disappears, leaving no ill-effects behind. These cases have been called examples of "rheumatic typhoid arthritis," but the name is confusing, for no one will maintain that they have anything to do with true rheumatism. It is not improbable that they are the result of irritation by toxins and that the typhoid bacillus is not present in the joints affected. Accompanying scarlet fever are two forms of articular disease; one of these is suppurative and is probably merely a part of a secondary sepsis, but the other is early in its appearance, is not severe in character, and usually soon subsides. It has been looked upon as a true rheumatism but far more likely it is a veritable scarlatinal affection of the joints. Influenza, too, seems occasionally to be complicated by an affection of the joints which goes on to form a stiff joint and Mr. MARSH related two instances of this condition which came under his own observation. When we consider how very common a disease influenza has been of recent years and still is this complication must be obviously very rare. Erysipelas and glanders may also be added to the list of diseases which are liable to be accompanied by an affection of the joints.

So far only articular complications of general diseases have been referred to, but there are certain unclassified cases of infective arthritis. Mr. MARSH quoted two cases of bronchiectasis in which several joints were affected, and in one of these the condition of the joints varied with the bronchiectasis; when the sputum was small in

amount and only slightly foetid the affection of the joints was less severe, but as the sputum increased in quantity and fœtor so the articular condition grew worse. In this case we cannot avoid the conclusion that the condition of the joints was dependent on the absorption of a toxin from the dilated bronchi. Two very instructive cases were under the care of Mr. H. W. PAGE at St. Mary's Hospital. In each a painful swelling of a knee ensued a few weeks after injury; the symptoms were severe and tapping caused some improvement but recovery did not occur until the joint had been washed out with a weak solution of carbolic acid. A diplococcus was found to be present which produced a polyarthritis in rabbits. The conclusion of the whole matter is that in very many diseases caused by microbes morbid conditions of the joints may occur. The joints may be affected in any one of four ways. Firstly, only the toxins of the micro-organisms may reach the joint, giving rise to a not very severe form of arthritis which tends to subside and which results generally in complete recovery of the joint. In a second form the special microbe of the disease is present in the joint and the result will vary according to the micro-organism. In some cases, as with the pneumococcus, suppuration is very likely to occur, with destruction of the joint; in other cases a more chronic process is set up, leading to much plastic exudation in and around the joint and generally ending in fibrous, or even bony, ankylosis; while in others, again, the inflammatory process is much less severe and more or less complete recovery may follow. In a third group of cases there are, in addition to the specific organisms, one or more varieties of the ordinary septic cocci, and there is a further group in which these septic organisms are present alone. In these two classes of cases extensive and severe suppuration is certain to follow.

As to treatment, Mr. MARSH recommends that in the mildest "toxic" forms rest on a splint is probably all that is required. In the microbic cases with effusion into the joint the fluid should be at once removed with an aspirator or by an incision and the joint should be freely irrigated with antiseptic lotion. In the form with much plastic exudation the prognosis is unfavourable as to complete recovery, but rest on a splint will be followed by firm ankylosis and this is probably the best that can be hoped for; any injudicious attempts at movement will almost certainly be followed by an aggravation of the symptoms and a postponement of convalescence. When septic organisms are present the only hope of doing any good depends on early evacuation of the contents of the joint with free irrigation. Mr. MARSH'S lecture has thrown much clear light on a very obscure domain of pathology. He has brought order out of chaos and has pointed out clearly the direction which bacteriological investigation should take to perfect our knowledge of infective arthritis.

The London Water Board.

THE comparative calm which followed the political excitement attending the debates on the Education Bill materially helped the Government to expedite the consideration of the Metropolitan Water Bill, and a certain prestige and elation which the Ministers experienced doubtless favoured the rapid settlement of a less contentious measure. The permanent clerks of the Local Government Board had great reason to desire the success of the measure and as no member of the Opposition had in any way mastered the subject the graceful concessions which Mr. LONG was willing to make in minor matters resulted as he wished in insuring the rapid passage of the Bill through Parliament. Now, having received the Royal sanction, it has become the Metropolis Water Act, 1902 (2 Ed. VII., Ch. 41). Such is in unvarnished language the story of the quick and easy passage of the measure through Parliament. The first effect of the Act will be the formation of the Metropolitan Water Board, the members of which are appointed under regulations provided in the Act: the details of the election having been left for the arrangement of the Local Government Board the only point which it is necessary to mention here is the fact that with one exception (that of the Thames Conservancy Board) all the authorities which have the power of election are left entirely free and unfettered in regard to the representative whom they appoint. It is not necessary for them to elect any member of their own body.

The Metropolis Water Act having come into force it is obviously the duty of those concerned to make the best they can of it. We pointed out in sufficient detail our objection to the Bill when it was introduced and since that time we have made direct appeals to the Government to reconsider the question in the light of facts which we had brought to notice. The Members who had charge of the Bill disregarded our appeals and all we can now do is to advise as to the best course to be taken under the new conditions which have been called into being by the Act. From a purely political standpoint it is probable that the Ministers in the measure which has now become law have shown more statesmanship than appears in any previous attempt which has been made in this direction. It must also be conceded that the question itself was forced upon the Government by the constant agitation of the London County Council and the fact that enormous sums of money were annually spent by that body and by the water companies in Parliamentary and legal procedure, the Bill for which the people of London had either directly or indirectly to pay. It may be further urged in favour of the Act that it does actually, though in a somewhat cumbrous manner, provide for the representation on the Water Board of all the various interests at stake. On the importance of this general principle we have constantly insisted.

The authorities in Water London are now called upon to elect the first members of the Metropolitan Water Board. The successful working of the Act will depend in great measure on the representatives chosen to carry out the important work allotted to them and much will be decided by the character of the start which is made. The first duties which the Board will have to undertake have reference to the purchase of the water companies' undertakings, and on the successful conduct of the case for the purchasers pecuniary interests involving large amounts necessarily hang. The water companies have had for years the benefit of the advice of a great majority of the most able and eminent

members of the Parliamentary bar and of most of the best known of water engineers. If the Water Board is to make anything of a fight on behalf of the people whose interests are intrusted to it its policy must be directed with ability and with a strict regard to business principles. It will be well, therefore, if the members of the Board are men of knowledge and of understanding rather than men who darken counsel with a plethora of verbiage. It is a wise provision of the Act that the electing authorities are not restricted in the choice of their representatives. It has been suggested by Sir WILLIAM J. COLLINS that the London County Council should not elect members to the Water Board because it has not exclusive charge of the whole enterprise. It is hardly to be supposed that the Council will follow this advice which does not appeal to us as practical. In the case of the metropolitan boroughs it may well be that gentlemen who would firmly decline civic honours would in many cases be willing to place their special knowledge at the disposal of their fellow-citizens by service on the Water Board. If one or two distinguished engineers could be prevailed upon to take this course the Board would be greatly strengthened.

It was suggested in the House of Commons by Mr. LONG that Lord LLANDAFF might be invited to become a member of the Board. No one in either House has a knowledge of the London water-supply comparable in any degree to that which Lord LLANDAFF acquired whilst he presided over the Royal Commission which is associated with his name and every one of the meetings of which he attended. The Metropolis Water Act is, however, a very different measure to the one which he indicated and the work done by Lord LLANDAFF has never been properly appreciated—he has been abused by a certain section of the press and damned with the faint praise of his colleagues. He may well think that he has already spent enough time and trouble over the London water question. There is, however, one office which he could well hold, that of chairman of the Board. The Board has the privilege of electing a chairman from outside its own members, and if Lord LLANDAFF at the unanimous invitation of the Board should consent to fill that post we should consider the circumstance of happy augury.

Annotations.

"Ne quid nimis."

SELF-PERFORMED OPERATIONS.

IN THE LANCET of Dec. 20th, 1902, p. 1716, we reprinted from THE LANCET of Dec. 18th, 1824, an account of a lithotomy performed by a French army surgeon on himself; the operation was a success and the surgeon-patient completely recovered. On the perusal of such an account a feeling of doubt as to its truth might naturally arise, but there are sufficient cases on record to make it certain that such operations as this have been performed—nay, that even more severe operations have been carried to a successful termination by patients. In considering the reports of such cases we must put into an entirely separate category all those mutilations which have been performed by persons of unsound mind; they are very numerous and of great interest, but they must not be confused with instances of self-operations for the treatment of a definite condition. In the case quoted from THE LANCET of 1824 the operator was a surgeon and therefore we need not feel so much surprise that the operation was a success as if he had not been acquainted with the subject, though our amazement at his endurance and perseverance is in no wise lessened. Gould and Pyle in their work on the "Curiosities of Medicine" mention that a Dutch blacksmith and a German cooper performed lithotomy on themselves. In another case what may be called lithotrity was carried out on himself by a draper. From the age of 17 years he had had a perineal fistula as the result of a fall. Later he suffered from symptoms of a vesical calculus and he introduced a chisel through the fistula and chipped off pieces of the stone; this was continued and eventually the remainder of the stone came away; in all it weighed over 14 ounces. He recovered and survived the operation 11 years. A somewhat similar case is that of General Martine who founded the Martinière Colleges of Calcutta and Lucknow. He suffered greatly from stone and determined to rid himself of it. In order to do this he prepared a piece of wire and by filing roughened one end, converting it into a file. The wire was then introduced into the bladder and brought into contact with the stone, against which it was rubbed until the pain compelled him to desist; some débris came away. This procedure was repeated until after 12 months' work all the stone was removed. Dr. James Murphy has recorded a case in which a man suffering from strangulated inguinal hernia incised the swelling with a razor, cutting off two large masses of omentum and almost completely severing the spermatic cord. It is somewhat doubtful if this case falls within the scope of the subject under consideration, as though the intention was curative the operation was not a success and in all probability the patient was insane at the time. The most impressive cases of self-operation are those in which Cæsarean section has been performed. These are numerous and, curiously, no small number has been recorded in coloured women. Many of the cases have been successful, the uterus contracting firmly and very little blood being lost. A razor has generally been the instrument, though in one case a broken butcher's-knife was used. Occasionally the child has been wounded, sometimes fatally. The incision is most often made to the right of the middle line, but in some cases it has been median. Prolapse of intestine has occurred in some instances. In one case a neighbour sewed up the abdominal wound and recovery followed. The most remarkable case was reported in *La Gazzetta degli Ospitali* in May, 1886, and a *résumé* was published in THE LANCET of May 8th. A peasant woman, aged 23 years, who was pregnant opened the abdomen with a kitchen knife by an incision on the right side and as she found it impossible to remove the child its head and one arm were removed. The uterus having been emptied she tied a broad bandage tightly round the body, did some household work, then went on a cart to visit her sister, walked about for five hours, and then fainted. On examination an extensive prolapse of intestine was found to have occurred through the wound. This was cleansed and returned and the wound was sutured. Complete recovery followed.

SHELL-FISH AND TYPHOID FEVER.

THERE is no doubt that the recent outbreak of typhoid fever at Portsmouth, Southampton, and Winchester, caused by oysters, urgently calls for fresh legislation which shall apply to shell-fish of all kinds. According to the report of the medical officer of health of Portsmouth, Dr. A. Mearns Fraser, it would appear that in the present state of the law the sanitary authority is almost helpless. There is legally no power vested in a sanitary authority by which the sale of oysters may be prevented because they may

come from a polluted source. Authoritative warnings as to the dangers from the pollution of oyster beds by sewage have in the past been issued, as Dr. Fraser says, only to be ignored. Dr. Fraser makes out a strong case in favour of the oysters having been the origin of the outbreak. There is no other conclusion left in the face of the following facts—(1) that all the 25 persons attacked ate oysters about the time they must have contracted the disease; (2) that these oysters came from the Emsworth oyster fisheries; (3) that the fisheries were open to contamination from the specific organism of typhoid fever; and finally (4) that there is no other condition common to all the cases which would account for the outbreak. It is pointed out that whatever lines legislation should take oysters, cockles, and mussels should all receive attention. Dr. J. T. C. Nash, the medical officer of health of Southend, has clearly traced outbreaks of typhoid fever through sewage-polluted cockles from Leigh and bacteriological examination has shown that the momentary immersion of sewage-polluted cockles in boiling water does not destroy the materies morbi. Dr. Fraser remarks that in connexion with prospective legislation there is also the question of imported shell-fish to consider, for all attempts to protect our own fisheries would be defeated if no precautions whatever were observed in regard to the shell-fish imported from foreign sources.

THE SHROUD OF CHRIST.

IN THE LANCET of April 26th, 1902, p. 1216, we gave a short *résumé* from the pen of our Paris correspondent of the paper read by M. Vignon before the Paris Academy of Sciences upon the Holy Shroud of Turin. We also pointed out in an annotation that it was by no means beyond the bounds of probability that a dead body would give off emanations or "vapours" which would affect a linen cloth which had been prepared with aloes and unguents. In a work recently issued[1] M. Vignon has expanded his paper and has gone exhaustively into the questions (1) whether the markings on the shroud are painted; (2) whether there do exist substances in or upon a dead body, especially that of a person dying a lingering and painful death, which could affect preparations of aloes; and (3) whether the markings on the shroud correspond to those known to have been inflicted on the body of Christ according to the Scriptures. There seems to be little room for doubt that M. Vignon has established that the outlines on the shroud are due to the emanation of vapours, and he suggests that these impressions might be called "vaporographic" prints. He certainly seems to have proved that the material must have been the shroud of a crucified person, and not only of a crucified person but of one who underwent also scourging and the other accompaniments of death which by both the Scriptures and tradition are ascribed to the Passion of Christ. As to whether or not the Holy Shroud be the actual shroud in which was wrapped the body of the Saviour there is, indeed, no proof, but according to M. Vignon's deductions there would seem to be a high degree of probability. Aloes, according to his experiments, fulfil the twofold conditions necessary for a substance which could produce such impressions as those found on the Holy Shroud. It remains to determine what vapour the dead body would give off which could affect or discolour aloes in the manner shown on the shroud. It is asserted that in order to fulfil these conditions it is only necessary that the body should be covered with pathologic sweat and especially the sweat of fever. It is well known that in morbid sweat the increase of urea is quite astonishing and M. Gautier has stated that urea may be produced so abundantly in morbid sweat that it forms crystals on the surface of the body. Again, the same writer says that viscous sweat strongly charged with urea will be given off by any fever patient in a crisis of pain. The transformation of urea into carbonate of ammonia provides a vapour which would act upon aloes in the way indicated. Experimental observations point to these conclusions being correct and M. Vignon and his collaborator, M. Colson, are convinced that a linen cloth which had been saturated with oil and aloes would, after a lapse of years or rather centuries, look like an ordinary cloth except in those parts where it had been subjected to the action of ammoniacal vapours. In these parts it would be covered with blotches varying in intensity, more or less shaded at the edges, of the colour of rust or rather resembling blood stains, giving just, in fact, the aspect of the impression presented by the Holy Shroud of Turin. The phenomenon, therefore, if thus accurately described, is analogous in some respects to the effects of the emanation of vapour from metals on the sensitised plate and attributed by Dr. W. J. Russell, F.R.S., to the formation of peroxide of hydrogen. Accordingly, the phenomenon of radio-activity would appear to have played no part in the production of the impression on the Holy Shroud. Whether M. Vignon is right or wrong he certainly has pursued an exceedingly interesting line of research which has yielded very remarkable results, while his deductions are decidedly ingenious.

[1] The Shroud of Christ: Translated from the French of Paul Vignon, D.Sc. (Fr.). Westminster: Archibald Constable and Co. 1902. Pp. 170. Price 12s 6d. net.

THE EPIDEMIC OF DENGUE FEVER IN CANTON, CHINA.

DR. W. J. W. ANDERSON of the Wesleyan Mission at Canton writes to us under date Nov. 24th, 1902, as follows:—"The year 1902 has been an exceptional one in and around Canton. In the early months of the year there was prolonged drought followed by a severe outbreak of cholera. Then the rain fell and plague raged like a fire amongst the people. In Fatshan (near Canton), a city as large as Leeds, it was no uncommon thing to find two or three in the family having died from the dread disease. In June, July, and August another epidemic swept over the delta and I am not far wrong in estimating that dengue temporarily claimed 95 per cent. of the population as its victims, foreign and Chinese alike. Extensive opportunities for observation of the disease amongst all classes have convinced me that it affects all alike—rich and poor, foreign or native. True, there are some differences, as the fair skin of a foreigner allows of the rash being much more pronounced, while the thick tough skin of the native does not seem to lend itself to the development of a good rash and the yellow pigment of the skin obscures its redness somewhat. But for severity of pains, height of fever, and general malaise, all have suffered alike. The disease is practically never fatal. I have heard of one old man who seems to have succumbed to the disease. Nevertheless it is a distressing condition because of the pains: they are so severe, continued, and crippling. In this epidemic the ankles and wrist-joints have been specially affected and pains have been felt even after the elapse of eight or ten weeks. Any immunity that is conferred is probably of short duration only, as second, and even third, attacks have come under my notice. As to the cause, it is probably a germ. The disease is certainly intensely infectious and is transmitted from man to man and conveyed in fomites. It does not appear to be carried any great distances by the air or to be affected by dry or wet atmospheric conditions, so long as it is hot. This is essential. I am inclined to believe that the germ can live a long time in unsterilised things like blankets, bedding, clothes, &c.; at the same time it is exceedingly easy to kill. My own experiences afford an excellent illustration, for I returned with my wife from Japan in splendid health after a holiday.

We arrived in Canton on a Thursday, but, unfortunately, could not get on to our home that night. We slept in a bed previously occupied by one who six weeks before had an attack of dengue and still had pains. But the bedding, mattresses, &c., had not been sterilised, although the sheets had been changed. We met, also, one other person who eight weeks before had an attack and still had pains. Neither of us were bitten by mosquitoes, which are blamed by the Chinese for transmitting the disease. On Friday we returned to Fatshan and next day my wife suddenly collapsed with all the signs of the disease and in a few hours I followed. My attack was very light and in a week I resumed my hospital duties, although rather hampered by pains. Almost all the drugs mentioned in the books I have tried on myself or my Chinese patients but with little success. Perhaps ammoniated tincture of quinine, in half to one drachm doses, gave the best results, but practically nothing touched the pains. But in reasoning about the conditions of the disease in our own case and comparing our experience with that of a colleague who had returned from Japan with us and escaped I came to the conclusion that we had been infected by sleeping in an unsterilised bed. My colleague slept in one not previously occupied by an infected person and has been entirely free. Then, further, I noticed that when my wife recovered a little and went to Canton she was entirely free from pain. I, staying at home, continued to have them. She occupied an uninfected bed but on the next day after her return her pains were almost as bad as ever. I therefore concluded that she was reinfected by sleeping in her own bed. So I suggested that we should take a bath in hot water and some fairly strong disinfectant, and that meantime all mattresses, bedding, &c., should be exposed to the sun during the day. This was done. After two days of such treatment all our pains vanished, nor have they returned We were not taking drugs. This simple line of after-treatment I have, with entire success, carried out with my Chinese patients, as with 'medicine water' it is easy to persuade them to sponge themselves down and to sterilise, in the hot sun we have here, all their beds and clothes. I give simple tonics when necessary. The treatment is apparently as effective as simple. I feel convinced that one reason for the long continuance of pains is the nightly re-infection. This is quite in keeping with the fact that there is a fine desquamation of the skin often prolonged over two or three weeks in some. The sun evidently speedily kills any infective germs in the desquamated skin dust."

A HOSPITAL FOR PAYING PATIENTS.

ON Jan. 9th the Duke of Northumberland opened the hospital for paying patients at Fitzroy House, Fitzroy-square, London, W., which has now been partly rebuilt and completely renovated. In 1877 Sir Henry Burdett suggested in a letter to the *Standard* that an association should be formed for the purpose of founding a hospital for well-to-do patients, to which admission should be by payment only. A little later a public meeting was held at the Mansion House and ultimately the Home Hospital Association for Paying Patients was incorporated in 1878. A sum of over £20,000 was contributed by those interested in the movement and in 1880 the first home hospital was opened in Fitzroy-square. Later the association acquired the freehold of the neighbouring house and a lease of other adjacent premises. Fitzroy House, as this home hospital was called, has for 22 years done much work for middle-class patients, for it has always been conducted on a system which provides that each patient shall be charged but little over the cost price for his accommodation and shall pay, and be attended by, his own medical man From first to last 5376 patients have been under treatment in Fitzroy House. Last year it was recognised that the hospital must be reconstructed and largely rebuilt so as to provide a perfectly equipped modern hospital. For this purpose it was found necessary to raise £10,000, and of this about £2300 have already been subscribed, leaving about £7700 yet to be raised. The work of renovation has been now completed and the new Fitzroy House contains about 40 rooms, 30 of which are bedrooms. The floors have been covered with papyrolith, which amongst other things contains asbestos, paper pulp, sawdust, and magnesite. This is laid like a cement and forms when dry an extremely hard and impervious surface. A model operation-room has been provided on the top floor, with a north vertical light and a top light in addition. The walls and ceiling of the operation theatre are lined by six-inch glass tiles. All the rooms are fitted with electric light and the whole hospital has been decorated and fitted in a very artistic manner. A passenger-lift working by electricity renders easy the removal of a patient from one floor to another. In its present condition the building is well suited for the purpose for which it has been designed—namely, the nursing at moderate rates of middle-class patients. The fees charged are inclusive of everything except medical attendance and range from four to ten guineas per week. The hospital is self-supporting—in fact, a very small profit is made, for the management endeavours to carry it on at as low a rate as is possible without incurring a debt, and yet the patients have all the attractions and comforts and more than all the medical conveniences of a well-appointed house. It is pointed out that the hospital is to a certain extent of the nature of a charitable institution, for the money for renovating the building has to be provided by donations, but that, inasmuch as the fees charged to the patients only just suffice to maintain the hospital, it is really self-supporting. Certain privileges in the way of priority of admission are granted to those who subscribe 20 or 50 guineas. There is, no doubt, a future for institutions such as this when conducted on right principles, for the average private house is ill adapted for sick nursing of any kind, and especially for operations. It is felt that there is a need for self-supporting pay hospitals in which a lower charge is made than four guineas a week, and Sir Henry Burdett suggests that pay wards should be located in ordinary hospitals and that a two-guinea or a 50*s.* minimum fee per week would suffice to cover the cost of maintenance, while the patient could select any medical man he preferred, the medical fees being paid out of a fund formed by putting aside 10 per cent. of all moneys received. The question as to whether this percentage would provide sufficient funds for the purpose appears to rest on the supposition that in many cases more than £2 10*s.* would be charged, as the scheme suggests that all the patients should pay what they can afford but in no case less than the above sum.

THE COLORIMETRIC DETECTION AND ESTIMATION OF BORIC ACID.

SINCE it is probable that some day—and already we have waited long—the Government may be led to adopt the recommendation of the Foods Preservatives Committee to the effect that the use of boric acid should be altogether prohibited in milk and that the quantity of the preservative should be restricted in butter and cream, it is desirable that we should be in possession of a trustworthy process for the detection and estimation of boric acid in foods. According to Mr. C. E. Cassal and Mr. Henry Gerrans, analysts engaged in the examination of foods under the Sale of Foods and Drugs Acts, the old turmeric test may be improved considerably by adding oxalic acid. They apply the test for free or

combined boric acid in milk or other foods by first drying and burning the residue to an ash. It is well to add a little caustic baryta solution before evaporation and incineration as otherwise small quantities of boric acid might be lost. The ash is treated with a few drops of dilute hydrochloric acid, then with a saturated solution of oxalic acid, and, finally, with an alcoholic solution of curcumin or turmeric, and the mixture is dried on the water bath and the residue is taken up with a little spirit. The spirit will be coloured a more or less intense magenta red if boric acid is present. Mr. Cassal and Mr. Gerrans state that they have been able to employ this test for the determination of the actual amount of boric acid present. If their observations are confirmed this method should be of obvious service.

THE CONTAGIOUSNESS OF CANCER.

IN a leading article in THE LANCET of Dec. 6th, 1902, p. 1558, we reviewed the reasons for thinking that, in spite of the fact of our ignorance of the real etiology of cancer, we were justified in looking upon it as contagious and in taking all those precautions to prevent its spread which that theory of its origin would suggest. Dr. A. T. Brand of Driffield has drawn our attention to the address which he delivered last May on the occasion of his installation as President of the East Yorks and North Lincoln branch of the British Medical Association. In this address Dr. Brand maintains the contagiousness of cancer and supports his contention with many of the arguments which we advanced in the leading article referred to, and he quotes an instance of apparent contagion occurring within his own knowledge. It is in the suggestions for prophylaxis that Dr. Brand's address is especially interesting. In addition to most of the precautions which we advocated, such as destruction of the dejecta and dressings, he mentions "notification." This might prove to be a valuable measure as it would enable precautions to be taken against the spread of the malady and would give us more accurate information as to the localities where the disease arises than can be obtained from statistics as to the places of death from cancer.

SCOTTISH POOR-LAW MEDICAL OFFICERS' ASSOCIATION.

THE report of this association for the year 1902 states that during that period the committee was occupied with a number of important questions. The secretary (Mr. W. L. Muir, 1, Seton-terrace, Glasgow) was summoned before the Committee of the Privy Council which has for some time been considering the subject of the sale of poisons. His evidence on that occasion was to the effect that in the Highlands, islands, and country districts where there were no druggists it was necessary for medical men to supply the public with all drugs required, poisonous or otherwise, and it was a serious hardship for a medical man to be found guilty of "infamous conduct" by the General Medical Council because in his absence someone in his surgery had supplied a scheduled poison to a member of the public. The secretary was also summoned before the Scottish Local Government Board as a witness in its inquiry as to the medical relief of the poor. The general character of his evidence was that it was absolutely essential that the Poor-law medical officer should have a more secure tenure of office than at present, with an appeal to the Local Government Board against unjust treatment; that he should have the power of ordering invalid diet, stimulants, and the like, without the same being vetoed by the inspector of poor (an official corresponding to the clerk to a board of guardians in England); and that for all fractures, midwifery, and other exceptional cases there should be extra fees. The Bill for the amendment of the Local Government (Scotland) Act, promoted by the association, was persistently blocked by one of the Scottish Members of Parliament and did not reach the second reading. The Lord Advocate's Bill to amend the Local Government Act likewise never reached a second reading, having been blocked by the same Member. Both Bills will, however, be introduced again next session.

THE DISTRIBUTION OF PLAGUE.

As regards the Mauritius a telegram from the Governor to the Earl of Onslow, acting for the Secretary of State for the Colonies, received at the Colonial Office on Jan. 6th, states that for the week ending Jan. 1st there were 9 cases of bubonic plague and 5 deaths from the disease.

THE TREATMENT OF ABDOMINAL CONTUSION WHEN RUPTURE OF THE INTESTINE IS POSSIBLE.

WE have recently called attention to the difficulty and even impossibility of diagnosing rupture of the intestine in cases of abdominal injury. The great importance of early operation has led American surgeons to advocate the performance of laparotomy within a few hours of the injury in all serious cases of abdominal contusion.[1] In the *Boston Medical and Surgical Journal* of Nov. 27th, 1902, Dr. F. B. Lund relates six cases of early laparotomy in rupture of the intestine with four recoveries—eloquent testimony of the value of this treatment. He points out that beyond the fourth or fifth hour after injury every hour adds to the danger, and that the surgeon cannot afford to wait for certain signs of perforation. In his successful cases the interval between the injury and the operation was three, five, nine, and 16 hours respectively; in his unsuccessful cases 18 and 24 hours respectively. One case presented the remarkable feature that apparently there was no contusion of the abdominal wall but that there was of the back. The patient was a man, aged 40 years, who was taken to hospital six hours after he was struck in the back, below the left shoulder blade, by the shaft of a wagon and knocked down. He felt faint for a time. Severe abdominal pain, chiefly above the umbilicus, followed. He soon got up and was able to walk three-quarters of a mile. A cup of tea which he drank brought on vomiting and the pain increased. On admission the pulse was 92, thready, and of low tension; the temperature was subnormal; the lips were pale and the face was ashen. The abdominal wall showed no evidence of injury. The abdomen was distended and everywhere was rigid and tender. There was no dulness, even in the flanks. On the back, over the left tenth rib, about three inches from the middle line, was a red contused area. Immediate operation was advised but declined. A high enema brought away but little fæces. A quarter of a grain of morphine injected subcutaneously gave only slight relief. He grew steadily worse and 18 hours after the injury consented to operation. On opening the abdomen much dark-brown fluid, evidently bile-stained, and flakes of fibrin and particles of food escaped. The peritoneum of the small intestine was congested and covered with fibrinous exudation. A perforation which easily admitted the forefinger was found in the jejunum opposite the mesenteric attachment; extending downwards from it in the long axis of the bowel was a peritoneal tear one and a half inches long. Owing to its position and to abdominal rigidity the perforation was sutured with difficulty. The patient recovered well from the operation, the pain ceased, and the pulse improved; but on the second day after the injury severe diarrhœa began. It was controlled by opium and he improved. On the third day he again became worse and he

[1] THE LANCET, Jan. 25th, 1902, p. 247.

died 72 hours after the operation. Dr. Lund thinks that the rupture of the intestine was from within and the result of a sort of *contre-coup*. In cases of abdominal injury perforation may occur from within: the fluid contents of a loop of gut confined for the time in a narrow space are by the impact thrown into a state of tension and are forced through the intestine. Several cases are recorded of perforation from falls on the back. In all of these the perforation was at the beginning of the duodenum, where the gut is held down by a fold of peritoneum and has but little mobility.

THE MEDICAL MAN, THE CORONER, AND THE PATHOLOGIST.

IN the *St. James's Gazette* of Jan. 10th there appeared a paragraph, headed "Coroner Troutbeck Replies to his Critics," which reported a speech made by Mr. Troutbeck at an inquest held in Wandsworth on the previous day. As far as we were compelled to criticise Mr. Troutbeck his reported words contain no reply whatever. According to the *St. James's Gazette* he said that—

> He had recently been carrying out a policy of considerable moment to the public. A long time since the London County Council came to the conclusion that many of the post-mortem examinations made were a waste of money, because they were not properly carried out, and without obtaining legislation on the subject the Council had done what they conceived to be their duty to the public by enabling coroners to engage the services of a skilled pathologist. It was perfectly clear that a great many medical men in the neighbourhood thought that the law was made for the good of medical practitioners and not for the good of the country; but that was a position that he (the coroner) would not for one moment recognise. It had always been held in this country that interests of any particular class were all very well so long as they did not clash with the community as a whole; the moment they did that class must give way. He was bound to carry out his duty without fear, favour, or affection and to the best of his skill and knowledge. If it was true, as had appeared in print, that his policy as it affected local medical men was an attack on the "liberty of the people," it was time they changed it. For his own part he believed a coroner possessed the discretion of calling what medical evidence he chose, and he was bound to exercise that discretion for the good of the inhabitants and the country. That was the policy he meant to adopt, and he did not mean to change from his purpose on account of any suggestion "that Battersea money should be spent on Battersea doctors," and so on; such assertions would not influence him in the slightest degree. The only thing that could influence him was, what was the best evidence to put before the jury to get the best results.

Mr. Troutbeck's words, as recorded above, leave every issue unanswered that has ever been raised by thoughtful unbiased persons. No one doubts that the services of a skilled pathologist—we are not referring to Dr. Ludwig Freyberger, of whose scientific merits we have not expressed, and do not express, any opinion—may be of value in special cases. It is probable that the expert ought to be called for by the jury and not by the coroner, but, passing the point over, why are so many inquests in Mr. Troutbeck's district attended with peculiar circumstances? No sensible person has ever raised the cry of "Battersea money for Battersea doctors" or thinks that the law is made for the good of the general practitioner, the skilled pathologist, or the coroner. Reasonable critics of Mr. Troutbeck's position say that if he neglects to call as a witness at an inquest the medical man who has attended the case he does not do his duty to the community. He does not obtain his verdicts upon the best evidence and his procedure may result in some awful miscarriage of justice. We congratulate Mr. Troutbeck on the unwavering courage and cold impartiality with which (he is made to say) his actions are inspired, but we would point out that he appears simply to be carrying into effect the orders of the London County Council, in accordance with a promise made before he accepted his recent appointment. When, if ever, Mr. Troutbeck seriously replies to his critics he will have to prove the legality of his actions. He will have to show that the County Council has the power to enter into an agreement with him whereby he should act contrary to the law of the land. It will not be sufficient, and it will not be straightforward, to suggest that there is nothing behind the agitation against his conduct save a greediness on the part of "Battersea doctors for Battersea money." This is an unworthy innuendo on the part of a professional man against a group of professional men, and we trust that Mr. Troutbeck will state publicly that he has been misreported.

THE TRANSMISSION OF SMALL CHARITABLE CONTRIBUTIONS.

MR. J. BERNARD LAMB, the secretary of the Royal Medical Benevolent College, has sent us a letter in which he suggests a scheme for the transmission of small contributions to the larger hospitals and charities in London. Mr. Lamb's scheme is as follows: (1) a department of the Charity Commission is to be authorised to receive contributions and the moneys received, less a percentage for poundage and postage, are to be handed to the charities for which the subscriptions are sent once or twice a year; and (2) the issue of post-card cheques of values ranging from 6*d.* to £1 1*s.*, payable only to the Charity Commission. The scheme seems to be practicable though it may require modification. As the writer of the letter points out, a feeling certainly does exist among some people that small amounts are not worth contributing towards the funds of a charity. Moreover, when adverse circumstances compel subscribers to curtail their list of contributions they invariably cease to subscribe altogether. Facilities for remitting small contributions are not numerous and a scheme like Mr. Lamb's ought, if carried out, to have the effect of adding considerably to the income of the various charitable institutions.

FACIAL PARALYSIS IN SECONDARY SYPHILIS.

ONLY a limited number of cases of facial paralysis in secondary syphilis has been recorded. Several explanations of the paralysis have been given. The usual one is pressure on the facial nerve from inflammation within the Fallopian canal, but pressure at its origin from the medulla produced by a patch of meningitis and pressure after its exit from the canal produced by lymphatic glands have also been invoked. Finally, syphilitic infection possibly produces neuritis of the facial nerve, as it does of other nerves. So far the explanations are only hypothetical; in no case has the opportunity of making a necropsy arisen. At the meeting of the Société Médicale des Hôpitaux of Paris on Nov. 21st, 1902, M. Georges Thibierge and M. Paul Ravaut related a case of facial paralysis in secondary syphilis which derived additional value from the fact that the cerebro-spinal fluid was examined—for the first time in this condition. On Nov. 18th a girl, aged 19 years, went to hospital with mucous patches on the vulva which had existed since the middle of August. She had a pigmentary syphilide on the neck, enlarged cervical and inguinal glands, and mucous patches on the lips and tonsils. On Nov. 17th she complained that since the previous day she had had some difficulty of speech and mastication, with lacrymation of the right eye. There was right facial paralysis; the furrows on the right side of the face were effaced and the eye could be shut only slowly and incompletely. Hearing was not affected. On the 19th the paralysis was a little increased and lumbar puncture was performed. The fluid obtained showed abundant leucocytes and a few polynuclear and mononuclear cells. The importance of this result is rendered greater by the fact that examination of the cerebro-spinal fluid of five women in the secondary stage of syphilis revealed no such marked meningeal reaction. In three of them who complained of headache the fluid contained no cells; in the two others, of whom one had slight iritis and the other paralysis of the third cranial nerves, the fluid showed only slight lymphocytosis. Lymphocytosis of the cerebro-spinal fluid has the value of an anatomical fact and shows the existence of a meningeal reaction. In the case described above it points to a meningeal lesion as the cause

of the paralysis—a hypothesis in keeping with the symptoms, for the absence of auditory and gustatory troubles points to a lesion of the nerve before it entered the temporal bone and before its union with the chorda tympani. In the discussion which followed M. Widal pointed out that the facial nerve from its origin to its entry into the auditory canal is in contact with the meninges, and that the question whether the neuritis gave rise to meningitis or *vice versâ* was unsolved. The period of the syphilis at which the paralysis occurred could not be exactly determined but it was probably about the fifth or sixth month.

OYSTERS AND TYPHOID FEVER IN AMERICA.

As in France and in England so also in the United States of America the spread of typhoid fever by contaminated oysters is a contingency which, as has been again proved, may occur. A special investigation has been held in respect of 72 cases of typhoid fever recorded last autumn in Atlantic City. During the season this popular resort accommodates some 200,000 persons. In one-third of the cases the patients were visitors staying at different hotels. Of course there were exaggerated rumours, and as the interests of the town depended on its holiday visitors that was a matter of grave concern. Consequently Dr. Abbott, bacteriologist of the University of Pennsylvania, and Dr. Henry Jeffmann were called in consultation. It was found that the water used for drinking came from different sources. All the hotels had artesian wells and the private houses had the town supply. The cases were scattered in different parts of the town and no special and similar sanitary defects were found. An important discovery, however, was made. There are sewer-pipes that cross a canal—the Penrose Canal; these were broken and allowed the sewage to escape into the water. Near at hand three of the largest oyster dealers are in the habit of "refreshing" their oysters for market in the water of this canal. All the hotels where cases of typhoid fever occurred purchased their oysters from these dealers and there was not a single case of the disease in any of the other hotels. No sooner was this ascertained than a sort of quarantine was imposed on all the waterways communicating with the Penrose Canal and the broken sewer was promptly repaired. There have been no more cases of typhoid fever and the local authorities, together with the experts whom they consulted, are convinced that they have discovered and removed the cause of the outbreak.

MUNICIPAL BACTERIOLOGICAL LABORATORIES.

IT is invariably found that wherever bacteriological laboratories have been installed the result has been a decided gain to the community. We have advocated the foundation of municipal bacteriological laboratories like that at Lambeth which, since its inception in 1899, has been the scene of no less than 2037 bacteriological examinations. Dr. J. Priestley, the medical officer of health of Lambeth, reports that one reason for the success of this bacteriological laboratory is the great use that is being made of it by the Lambeth medical practitioners, by whom its institution by the late vestry in 1899 has been much appreciated and to whom it has proved of the greatest value. Apart from the question of the bacteriological examination of foods such as milk, ice-cream, and other articles, a bacteriological laboratory affords the medical officer great assistance in carrying out his duties and is of service to the medical practitioner in verifying the diagnosis in doubtful cases of infectious disease. In Lambeth the institution of a bacteriological laboratory has been the means of thus verifying diagnoses, with the result that distinct indications are given when preventive measures should be taken. In the event of the suspected disease not having been shown by bacteriological examinations to be of an infectious nature expense has been saved in connexion with hospital treatment and disinfection. In fact, bacteriological laboratories in large communities are a *sine quâ non* if medicine is to be truly progressive and the public health is to be efficiently guarded. In connexion with this question we may note that the Bristol Health Committee has recently decided that the bacteriological work which had been done in the medical officer's department should be for one year transferred to the University College where it would be carried out by Professor Stanley Kent at a cost of £200.

THE THERAPEUTIC IMPORTANCE OF LIGHT IN THE TREATMENT OF TUBERCULOSIS.

WE have received the reprint of a paper which appeared in the *Journal of Tuberculosis* for October, 1902. The title is "Light: its Therapeutic Importance in Tuberculosis as founded upon Scientific Researches." It is written by Dr. J. Mount Bleyer, Vice-President of the American Congress of Tuberculosis. The pamphlet consists of 80 pages and is mainly occupied by an elaborate disquisition upon the physical properties of light and the effect produced by it upon vital organisations. The amount of labour involved in collecting material for this contribution must have been immense. In addition Dr. Bleyer publishes a number of original observations on the therapeutic applications of light which, if corroborated by other observers, will prove of great value in the treatment of tuberculosis. It has been shown by several authorities that colour exerts a very powerful influence on the conduction, radiation, and permeation of heat. White or light-coloured clothes transmit more light to the body than those of any other colour, while black or dark-coloured clothes absorb the light and degrade it into the coarser principle of ordinary heat. Dr. Bleyer therefore advises that all clothing for general wear of the tuberculous should be made of lightest coloured materials, preferably all white garments. He further states that he has seen "most wonderful results" from the exposure of the entire body in a nude state in solaria built for his patients. "Sun-baths" have been adopted in connexion with one at least of the sanatoriums in this country, but this form of treatment has not yet been sufficiently tried to enable any definite opinion to be formed as to its value. Dr. Bleyer in 1896 published in the *New York Medical Journal* some remarks on "electric arc cromolumes for generating violet rays of light as an adjunct to the treatment of tuberculosis." He now states that he has employed coloured rays of light with a successful issue in 60 cases of tuberculosis, of which he reports 40 were "cured," and in 20 "the disease was arrested to such an extent as the pathological changes present when they came under treatment would admit." He describes in detail the apparatus he employs for generating and applying the rays. Before criticising this method of treatment further investigations by other physicians will be necessary. Dr. Bleyer's results are certainly very striking and his therapeutic processes demand a full trial. Another portion of his communication is also worthy of notice. He undertook a number of physiological experiments to test the value of the different salts of iron in conjunction with "light administration." In over 100 tuberculous patients the different iron salts and organic preparations of iron were administered and the patients were placed exposed to the sun's rays and electric arc light. The iron salts were found to be taken up most rapidly, producing excellent constitutional effects. After the first week the red blood corpuscles had greatly increased in number and the amount of hæmoglobin was much larger. The administration of iron salts in cases of tuberculosis has not been extensively adopted in this

country, but Dr. Bleyer's observations would suggest a further trial in combination with the open-air treatment.

THE RISKS OF SHAVING.

THE use of soap lather prior to shaving the beard is regarded merely as a means of facilitating the troublesome operation. Soap is said to extract the oily matters from the hair and thus to render it brittle so that the blade of the razor saws through it easily, for after all shaving is a delicate sawing process. With sensitive skins of course a soap of good quality and preferably free from alkaline excess is desirable. On the other hand, it might be thought that an excess of alkali would prepare the beard more readily than a pure soap or superfatted soap. The corrosive effect of alkali, however, leaves no doubt as to which description of soap should be used. Soap probably plays a more important rôle than that of a saponifier of the natural oil of the hair. In spite of the fact that those who use the razor frequently cut themselves yet it is rarely that anything more serious than a cut follows, the slight wound generally healing quickly, and the risk of septicæmia arising in this way would seem to be almost *nil*. In the majority of cases therefore it is clear that the razor blade must be bacteriologically clean—i.e., free from septic matter—which may be attributed to the fact that probably it is dipped into hot or sterilised water before use or else that the soap lather is antiseptic. The latter explanation seems the more probable of the two. The amount of soap rubbed on the skin is considerable if the shaving is to be in any degree comfortable, and soap has considerable antiseptic power, a 6 per cent. solution being sufficient to destroy the typhoid bacillus. There can be little doubt, therefore, that the skin is rendered sterile by the liberal application of soap, and this fact is in favour of any cut that may be made remaining healthy and without any serious consequence. In a word, soap in the operation of shaving not only facilitates the process but plays the same valuable rôle when the shaver is unlucky enough to cut himself as does the antiseptic in surgery.

A HOSPITAL FOR THE INSANE IN SYRIA.

THE treatment of lunatics in the East has not yet fully emerged from the clouds of ignorance and barbarism which have surrounded it for ages. One of the first reformers who attempted to introduce the methods of humanity and science in this field in the near East was Mr. Theophilus Waldmeier, a gentleman resident in Syria, who commenced in the spring of 1896 the work of helping and providing for the numerous sufferers from mental disease in Syria and Palestine. His efforts were crowned with success and within two years a hospital for the insane was built near Beyrout, on the slopes of the Lebanon Mountains. This institution has been in full working order and has been doing good work for two years. In the fourth annual report recently issued there is an account of the institution and of its work for the year ended March 31st, 1902. The building, which includes wards for male and female patients, is of stone; the grounds, which were hitherto barren, have been cultivated; and at the time of the report (1902) there were about 35 patients in the hospital. Patients come and go without much difficulty being experienced, as relatives are sometimes prone to take them away before recovery is complete. "One poor Jewish woman was brought to the hospital suffering from acute mania. ..... She was left by her relatives apparently under the idea that she would be miraculously healed in a day or two by the doctor. After a few days they returned and found her about the same, and being disappointed at this they immediately took her away, probably to put her in some dungeon or cave noted for casting out evil spirits, there possibly to die in chains." Fortunately, adds the report, such cases are becoming rarer as the results of the work of the hospital are becoming more known amongst the people. 14 patients were discharged as recovered during the year. New wards are nearly completed for increased accommodation, so that the hospital will shortly be able to house 100 patients. 52 patients were admitted during the year. The amount contributed by the relatives of patients towards support and maintenance suffices to meet only about one-fourth of the cost. Charitable aid has been received from Great Britain, the United States, Canada, Switzerland, and other countries, and from the Turkish governing authorities of Mount Lebanon. The medical administration is under the care of Dr. O. Wolff and Mrs. Wolff. The address of the secretary in London is Mr. Francis C. Brading, 35, Queen Victoria-street, E.C., to whom charitable donations, gifts of books and articles of clothing, and inquiries may be addressed. Cheques should be crossed London, City, and Midland Bank.

SOME CURIOSITIES OF MEDICAL PRACTICE IN INDIA.

A CORRESPONDENT has sent us from Calcutta a collection of anecdotes bearing on the supposed efficacy of contact with live animals in the treatment of certain morbid conditions. Some 60 years ago, he says, there was a great Kaviraj or Bengali, physician in Nuddea whose name was either Janardan or Jaggannath. This worthy followed the methods of the ancient school of Indian practitioners and was, moreover, a specialist in the "animal cure." When sent for to attend a young man suffering from asthma he announced that he would employ the "goat treatment." Ghee prepared with goat's flesh was administered internally and a goat which made itself disagreeably perceptible to the nasal organs was brought into the room three times a day. The patient inhaled the odour, made use of the animal as a pillow, hugged it during his paroxysms, and recovered in a few days. The "reptile cure" was prescribed for a patient attacked with violent headache. A large snake was caught in the jungle and after its jaws had been properly secured it was wrapped round the sufferer's head. The poor snake died in a few minutes but the patient made a rapid recovery. Summoned to an urgent case of retention of urine the same specialist brought with him some live frogs caught by the wayside and poured over the patient's navel the juices squeezed from one of them, after which he tied another frog in a muslin bag and applied it to the navel. The sufferer is alleged to have been able to empty his bladder forthwith.

MR. LONG AND THE IMPERIAL VACCINATION LEAGUE.

ON Wednesday afternoon, Jan. 14th, the President of the Local Government Board received an important deputation from the Imperial Vaccination League. The deputation was introduced by Sir William S. Church, President of the Royal College of Physicians of London, and numbered among the speakers Sir James Crichton Browne, Professor T. Clifford Allbutt, Dr. F. T. Bond (representing the Jenner Society), Dr. J. C. McVail, Mr. Devitt, Mr. Debenham, the Chief Rabbi, Alderman Menlove, Mr. R. Brudenell Carter, Dr. T. D. Acland, Sir William H. Broadbent, and Dr. J. G. Glover. The speakers from various points of view urged upon Mr. Long the necessity for legislation in respect of revaccination and the provision of a better supply of lymph. Mr. Long, in a reply of an admirably satisfactory character, declared himself in favour in forthcoming legislation of making the county councils and borough councils the vaccination authorities for the future—a view with which our readers know we are

in accord. He also gave a good character to the available supplies of lymph. The various arguments adduced by the well-informed speakers, as well as Mr. Long's statesmanlike reply, will call for further report and notice from us.

CASSIA BEAREANA AND THE MALARIAL PARASITE.

IN THE LANCET of Feb. 1st, 1902, p. 282, we published a communication from Dr. D. R. O'Sullivan-Beare upon a native remedy which he had used with great success in blackwater fever and in cases of remittent fever. The remedy in question was a species of cassia which has been named "cassia Beareana." Messrs. Thomas Christy and Co., to whom Dr. O'Sullivan-Beare sent a supply of the root and who prepared a fluid extract thereof, now send us two communications on the matter. One is from a lady who had to leave Ceylon on account of malaria and who came home by the advice of the Government medical man at Newasa, Eliya. She had seen an account of the remedy in the *Ceylon Observer* and at once applied for some of the fluid extract which she took without apparently any medical advice. But she improved so much after taking it that she has determined to go back to Ceylon. The other communication is from Dr. C. C. Beling of the New Jersey State Hospital, Morris Plains, N.J., U.S.A., who wrote to Messrs. Christy and Co. as follows:—

DEAR SIRS,—In reply to my request of Feb. 11th, 1902, you sent me a 4-oz. bottle of cassia Beareana. I tried the drug on some cases of malarial fever with gratifying results. I have tried to procure more of the drug in New York through the State Hospital, but it was not on sale in the New York market.

You will probably have already heard from Messrs. Schieffelin and Co. with regard to the cassia.

I am desirous of obtaining some more of the fluid extract, and I shall therefore be very much obliged to you for a further sample, or for information regarding its purchase in New York.

The following is a short description of the results:—

Case 1.—H. C., aged 17, male. Chills and pyrexia. April 10th, 1902. Blood examination: Plasmodium malariæ, tertian parasite, intracellular pigment. No quinine, administered cassia Beareana 3vi 30 drops in water ev. two hours, no more chills, no plasmodium on subsequent blood examination.

Cassia seemed to check nausea and vomiting.

Case 2.—J. C., aged 10. History of malarial fever in summer, 1901, had first chill with severe headache and prostration on May 16th, 1902. Blood examination: Pigmented crescentic forms and ring-shaped bodies in all stages of development. No quinine, cassia Beareana 15 drops ev. 2 hours. Has been doing well. Did not return for further treatment. No second blood examination.

Case 3.—John C., aged 40, m. First attack May 16th, 1902. Took quinine sulph. gr. viii. on Friday, May 16th, had subsequent attack. Cassia B. ev. 2 hours. Took 3i or a little more altogether. No subsequent attacks.

Bl. exam.: May 16th, 1902 ..... Tertian parasite.
" May 21st, 1902 ..... No organism.

From the meagre experience with the drug it is not legitimate for me to say that cassia B. is a specific for all cases of malarial fever, but it would seem that it has a special action on the organism, and as far as my knowledge goes is not accompanied by any unpleasant symptoms.

Although we cannot approve of the action of the lady from Ceylon in taking a new drug without medical assent, yet it would appear from the two communications which we have quoted that cassia Beareana is likely to prove of use in the treatment of more forms of malaria than one.

THE UNIVERSAL EXPOSITION OF ST. LOUIS, 1904.

THE Universal Exposition which will be held at St. Louis in 1904 will commemorate the acquisition by the United States in 1803 of the great territory then known as Louisiana but which now comprises the state of Louisiana and 11 other States. The area of the territory is 1,000,000 square miles and Napoleon sold it to the United States not from any love of America but because he was engaged with various wars in Europe, and notably with England. The intent of the exhibition is, in the words of the official circular, "to form a roll of honour of man, and the works of man in his industries and crafts." The Exposition will cover some 1200 acres and no charge will be made for space to exhibitors. Cranes and hoists for handling heavy exhibits will also be provided free of charge and in addition all power necessary for the showing of machinery exhibits or for demonstrating processes will be supplied free. All exhibits from foreign countries will be admitted free and no exhibitor from a foreign country is to be held liable for the infringement of any United States trade-mark or patent "where the complaint is based upon the exhibition of any article or thing at the Exposition." Among the various departments are those of education, social economy, art, the liberal arts, including the medical profession in some of its forms, manufactures, transport, agriculture, and anthropology. Under the heading of agriculture are included preserved foods, wines, spirits, and fabrics. It is intended that the juries for deciding on the excellence or otherwise of the exhibits shall be international. We earnestly hope that one section or portion of a section will be devoted to adulteration, substitution, or what are euphemistically called "trade terms." For instance, what is called brandy is often made from beet or rice; Mocha coffee, although real coffee, comes from Jamaica; silk which is in great part cotton, and so on. We are only too well aware that this sort of fraud is systematically practised in our own country and we have every reason to suspect that the same thing happens in other countries. Our contention is that any substance which is sold under one name but which contains a large proportion of another substance should be sold, not simply as a mixture, but should be labeled with a ticket showing the exact quantity of the different substances. Take, for example, coffee; instead of saying, "This is sold as a mixture of chicory and coffee," the label should run, "This is a mixture of three parts of chicory"—or whatever the proportion may be—"to one part of coffee." An exhibition in which the various fraudulent processes were set out would do an enormous amount towards enabling the people either to get pure substances or at least to know what they are buying.

COMPLAINTS have recently been made that some of the metropolitan water companies have raised their water-rates and the suggestion has been made that this has been done in order that a larger sum may be given for compensation when the companies' undertakings are sold. The *Times* of Jan. 9th contains the summary of a complaint by a gentleman who is supplied by the Southwark and Vauxhall Company. It is not to our purpose to go into the merits of this or any other particular case, but it may possibly be of use for us again to point out that the Metropolis Water Act, 1897, provides facilities for the investigation of any cause of complaint not only in regard to the quantity or quality of the water supplied but also of the charges imposed by the companies. (See report of THE LANCET Special Commission on the Metropolitan Water-Supply, The Question of Control, THE LANCET, July 21st, 1900, pp. 181–197.)

The King has granted to Dr. Percy Athelstan Nightingale His Majesty's Royal licence and authority to wear the Insignia of the Fourth Class of the Royal Siamese Order of the White Elephant, conferred upon him by His Majesty the King of Siam in recognition of valuable services rendered to the Government of Siam when acting as Siamese delegate to the International Medical Conference at Brussels.

A dinner of the past and present students of the University of Durham College of Medicine will be held on Friday, Jan. 30th, at 7 P.M., in the County Hotel, Newcastle-upon-Tyne, when the chair will be occupied by Professor R. Howden. Tickets, 7*s.* 6*d.* each, may be had

from Dr. Turnbull, College of Medicine, Newcastle-on-Tyne, and must be applied for on or before Jan. 23rd.

THE annual meeting of the Neurological Society of London will be held at 11, Chandos-street, W., on Thursday, Jan. 22nd, at 8.30 P.M. The Presidential Address will be given by Dr. J. N. Langley, M.A., D.Sc., F.R.S., on the Autonomic Nervous System.

PROPHYLAXIS.

AN ADDRESS DELIVERED BY PROFESSOR NOTHNAGEL OF VIENNA AT THE MEDICAL CONGRESS IN CAIRO ON DEC. 24TH, 1902.

(*Specially translated for* THE LANCET.)

"THE most valuable asset is man." These true and high-minded words were uttered by one of the most enlightened of princes, our deeply mourned Crown Prince Rudolf of Austria. It surely finds an echo in the noble heart of the protector of this congress who is swayed by the same enthusiasm for the human race. It shows the most beautiful sympathy with mankind, and who so loves his fellow man and seeks the good of the State must strive earnestly after the fulfilment of the high ideal put before him in this great saying, both in his profession and in his sphere of influence.

For us medical men this duty becomes a challenge. Medical science must eventually make therapeutics unnecessary, which, though it sounds paradoxical, I feel in my innermost soul to be its true and final mission. To put it from the first plainly before you, understand this: not therapeutics, but prophylaxis; not the healing, but the prevention of disease must be the mission of medical men. The following briefly outlined examples will serve as proofs of the truth—nay, of the necessity—of this maxim.

Until quite recently all the efforts of medical knowledge were devoted to the cure of man already diseased. Medical knowledge existed and exists to cure. In former days there was supposed to be one or more definite remedy for each illness and symptom, but we have long put away such childish beliefs. It was recognised that the physician must in each case of sickness draw up certain indications for treatment in order to carry out his therapeutics according to definite scientific formulæ. There are three headings of such indications for treatment: (1) the *indicatio causalis*; (2) the *indicatio morbi*; and (3) the *indicatio symptomatica*—that is, the indication of the cause of the illness and its symptoms. Very rarely are we able to satisfy ourselves as to the *indicatio causalis*, chiefly because in only a limited number of diseases is the real cause known. For instance, it has long been acknowledged that the much-accused "chill" only prepares the way for the scene of action of the real cause, but does not in itself cause disease. We hardly possess the early beginnings of a dawning knowledge of the etiology of a long list of diseases resulting in the process of metabolism. It is true that, thanks to the wonderful development of bacteriology in the last ten years, we have to a certain extent mastered this knowledge in the case of the large group of acute and chronic bacterial infectious diseases, but, unfortunately, this is but one group in the mass of pathological conditions. And in these, as in other cases where the cause is the introduction of a known chemical poison (alcohol, mercury, &c.), so for all other pathological conditions we must, respecting the *indicatio causalis*, be perfectly clear about one point, which marks the direction in which we must act. At the moment when the medical man sees the patient the pathogenic causes have already produced effects representing the symptoms of disease, which are, of course, the signs of irregularity in the normal course of life which prove the existence of illness. But these functional reactions of the organism are invariably accompanied by more or less evident organic changes, visible to the naked eye or with the microscope. And treatment cannot, under these conditions, be limited to the eradication of results, it must also undertake the further task of curing these diseased organic conditions.

But how about the fulfilment of the second indication for treatment, the *indicatio morbi*? Verily, the deeper we search and the more we discover the marvellous ways in which nature overcomes disease, the more deeply we feel convinced that it can be only in exceptional cases possible for us to overcome pathological conditions by actual cures, that is, by our direct interference. I can cure a case of malaria with quinine, syphilis with mercury and iodides, with the latter also certain affections of the glands, besides certain nerve and skin affections with arsenic, anæmia with iron, and diphtheria with the special serum. And thus a limited number of cases could be cited where the medical man really becomes the master of nature, but what an infinitely small number compared to the innumerable pathological conditions that exist. The utmost we can do in most cases is to remove what is preventing the work of restoration by nature, or to assist to our uttermost the energy displayed by her. One of the greatest strides made by therapeutics in the last century is that the recognition of this fact has become more universal.

We admire the wonders of aseptics, but do not let us deceive ourselves; be the operation ever so daring and brilliant the surgeon has not the power of healing, he can but prepare the way for the readjustment of normal conditions attempted by nature. The words of Ambroise Paré are as true to-day as they were 350 years ago: "Je le panse, Dieu le guérit." Even in the case of the most simple operation union by first intention is only brought about by the cells of the severed tissues, not by the mechanical sutures. A catarrh cannot be cured by any local or general treatment, but by the action of the cells of the blood and the lymph stream. The serious functional and anatomical disturbances displayed in cases of typhoid fever, small-pox, scarlet fever, &c., can up to now only be overcome by the means of defence set up by the organism itself. How our views have in many respects changed. We no longer regard the symptoms of inflammation or of fever as an evil that must be destroyed. We now recognise that these symptoms are in themselves some of the means of defence employed by nature and that only when they appear in excessive degree do they need direct treatment. Look at the marvellous adjustment and adaptation by nature which renders harmless the serious changes occurring in many chronic diseases. A defect of the heart can be so influenced by hypertrophy that though it would otherwise inevitably have fatal results, yet it may cause no important disturbance for many years. The loss of one kidney can functionally be made good by the increase in size of the other. A threatened obstruction of the intestine above a narrowing of the bowel is prevented by rapid muscular development of the walls of the intestine, a change that is often completed within the space of a week. When a blood-vessel is diseased collateral circulation carries on the work; one nerve tract will act for another which has been cut. And thus hundreds of examples could be brought forward in which the organism undertakes the adjustment of diseased conditions and does its work almost to perfection. It is the natural adaptation which takes place unaided in pursuance of the biological laws of the organism which has the power, if not to cure, yet to protect to some extent from further injury. But what if the diseased part is not accessible to these influences, in consequence of its peculiar nature and intensity, or because of certain anatomical conditions? What can art do then? The answer is depressing in the extreme; we can then only depend upon symptomatic treatment. There is no doubt but that this also serves a great purpose in lessening pain, in bringing peace and comfort. Never will medical art be able to dispense with symptomatic therapeutics so long as disease exists.

Digitalis and antipyrin, diuretin and atropine, and a long list of other substances, above all others opium and morphia, are invaluable possessions in the treasury of medicine for the accomplishment of symptomatic treatment. There can be no doubt of the immense benefit they can be to a sufferer when they are properly employed. They may even accomplish so much that the patient may dream that they have effected his cure. For so long as he is free from suffering in his anatomically changed organs he cares not whether his heart be big or small, his life smooth or troubled. And when hydrotherapy succeeds in the case of a tuberculous patient suffering from fever, or one of typhoid fever or pneumonia in improving the temperature and circulation, or in nerve cases and subjective conditions, it may be considered indispensable. And so countless examples might be given to prove the value of symptomatic therapeutics. But in the end we come to this—they cannot cure because many

of these conditions are incurable. If now we consider the general effect of the treatment of causes of illness which have already brought forth reactive symptoms of the body we shall see that in most cases the effects are illusory and only in very isolated cases effective. On the other hand, in these latter cases the effect, as in malaria or acute poly-arthritic rheumatism, is distinctly brilliant. The removal of established lesions must be left to the self-defence of the organism itself both in acute and in chronic conditions. If this is not possible ease can only be procured by systematic treatment. When a condition of atrophia granularis renis cum hypertrophiâ cordis exists neither art nor knowledge will ever be able to enlarge the shrunken kidneys or to shrink the enlarged heart. An emphysematous lung can never be made to resume its normal condition; in the case of multiple insular sclerosis of the brain and spinal cord the sclerosed nerve can never be converted back into normal tissue. In many cases of organic disorders, established by an acute process, a better prospect of relief has been opened up by the serum treatment. But here also there must remain a large number of cases which are inaccessible both to the self-defence of the organism and to therapeutic measures. Medical art and knowledge must ever be satisfied with this—the limits of the healing art end here.

And are we to rest content with this state of affairs? Must we resign ourselves to it? No, indeed, for if now and in the future we are unable to cure the greater number of diseases when once they have developed, yet one other course remains for us to pursue—the prevention of the development of disease, the perfection of prophylactic measures. The furtherance of this ideal must be our aim. I am convinced that in no great length of time we shall attain this result, that as hygiene is now taught beside pharmacology so the special study of prophylaxis will be established. The dawn of this new phase of medical knowledge broke more than 100 years ago with the marvellous discovery of vaccination against small-pox. There followed upon this discovery a long period of inactivity, but it was the original pioneer who opened out the way for the principles of bacteriology. If cholera and plague have lost much of their severity in their original homes we may thank prophylaxis for it. It is questionable whether we shall ever obtain a serum or an antitoxin capable of destroying the cholera or plague developed in India or other acute infectious diseases. But without doubt there is now more certainty in protecting a country or an individual from the invasion of the seeds of disease. If this is the case with this class of disease, which includes acute and curable conditions, so much more can it be said of those conditions in the course of which absolutely irreparable changes are developed. In spite of many pharmacological attempts and other measures against tubercle, this most terrible disease can only be combated in one way—viz., by the protection from all infection. For such cases as contraction of the kidney or cirrhosis of the liver, and countless other diseases, no therapeutic principles but only prophylaxis are to be thought of. I will give no further examples, those that I have quoted will serve as illustrations.

It is evident that you can only treat a disease when you know its character and its cause in order that the latter may then be avoided. Our experience with acute infectious diseases is the certain proof of this. It follows that there must be a restless, constant striving after the cause of disease and the recognition of these causes is the first step towards the fulfilment of the medical art of the future.

The proceedings of this Congress have given us another proof that in prophylaxis lies the hope of the future. Cholera, abscess of the liver, dysentery, bilharziosis, and ankylostomiasis can only be combated by prophylaxis. I fear that for many reasons the attainment of this ideal object will be postponed to the distant future. But it must be striven for and eventually it will be achieved. That in principle, at least, the work of us medical men should become unnecessary must be our constant striving, and to this end we must, to the best of our powers, assist.

Gentlemen, this brilliant Congress, with its fruitful and original work, has now come to an end. We strangers must leave this beautiful country which has been blessed by the culture of antiquity. If in future years we should return here we shall see that the pregnant words of the Arab saying have come to pass: "The Nile will come to the desert because the king was good." Then that which in its beginning promises such wonders will have grown to a more perfect blossoming; the noble spirit of my colleagues who are working here will have borne still finer fruit. And so may God bless the exalted ruler of this beautiful country and his people.

MEDICAL STAFF COLLEGE, NETLEY.

THE second half of the first session of the Medical Staff College, held at the Royal Victoria Hospital, Netley, for lieutenants of the Indian Medical Service, was brought to a close on Jan. 10th, when the prizes were distributed by Surgeon-General Sir William R. Hooper, K.C.S.I., I.M.S., President of the Medical Board at the India Office.

The proceedings commenced at 11.30 A.M. in the presence of a large company, which included the principal medical officer of the hospital, Surgeon-General E. Townsend, C.B., C.M.G., R.A.M.C., Colonel H. Cayley, C.M.G., Dr. A. E. Wright (late professor of pathology), Colonel W. F. Stevenson, C.B., R.A.M.C., Colonel Kenneth Macleod, I.M.S. (ret.) (professor of military and tropical medicine), Major W. W. Webb I.M.S. (ret.), and the military and nursing staff of the Royal Victoria Hospital.

Colonel Macleod read a report giving details of the work of the session, which extended over a period of two months.

The following list shows the results of the examination at Netley only:—

INDIAN MEDICAL SERVICE.

List of lieutenants-on-probation of the Indian Medical Service who were successful at the Netley examination. The prizes are awarded for marks gained in the special subjects taught at the Medical Staff College.

		Marks.
*‡1.	F. P. Mackie	1421
*2.	A. T. Pridham	1264
3.	J. O'Leary	1241
4.	T. C. M. Young	1220
5.	A. K. Lauddie	1214
**6.	S. R. Christophers	1207
7	C. L. Dunn	1199
8.	P. G. Easton	1183
9.	J. H. Murray	1180
10.	H. Emslie-Smith	1177
†11.	G. A. Jolly	1172
12.	F. P. Vieyra	1159
13.	R. F. C. Talbot	1129
14.	H. R. Dutton	1125
15.	H. H. Kiddle	1115
16.	R. D. Saigol	1077
17.	H. M. H. Melhuish	1057
18.	H. M. Brown	1051
19.	H. C. Brown	1037
20.	W. J. Collinson	1023
21.	A. F. Pilkington	1013
22.	V. B. Nesfield	1003
23.	W. W. Jeudwine	968
24.	F. C. Rogers	963
25.	M. Baket	957
26.	C. E. Bulteel	901
27.	C. A. F. Hingston	882
28.	G. F. Humphreys	843
29.	J. L. Lunham	800

* Gained the Montefiore prize of 20 guineas and medal.
† Gained the second Montefiore prize.
‡ Gained the Martin memorial medal.
** Gained the Maclean prize for clinical and ward work.

Sir WILLIAM HOOPER having handed the prizes to, and congratulated, the winners, delivered the following address which was listened to with great interest and received with repeated marks of approval. He said that the four prizes which he had just had the honour of presenting formed the share, and a fair share, allotted to the lieutenants of the Indian Medical Service of the nine prizes formerly open to lieutenants of both the Royal Army Medical Corps and the Indian Medical Service, four being now competed for by lieutenants of the Royal Army Medical Corps on completion of the Medical Staff College course in London, whilst the ninth prize—that for hospital administration, presented by Mrs. Marshall Webb in memory of the late Surgeon-General William Marshall Webb—was open to officers of both services and was won this session by Lieutenant Mackenzie of the Royal Army Medical Corps. It was particularly gratifying to him to have the honour of presenting the prizes, for in July last, when Earl Roberts very kindly made the distribution at the Royal Victoria Hospital, it was feared that there would be no subsequent distribution there and that the War Office might even close the school in which under Parkes, Longmore, Maclean, Aitken, de Chaumont, Boyes-Smith, and more recently under Colonel Cayley, Colonel Notter, Colonel Bruce, Colonel Macleod, Colonel Stevenson, and Professor Wright, a long list of men of both services had received most valuable instruction. Everybody would greatly regret that Professor Wright had severed his connexion with the Staff College—a teacher of great ability who possessed the gift of imparting to his hearers some of his own zeal and love for science. Under him many members of both services had qualified for the valuable work they had since done. They must all feel thankful that

Colonel Stevenson's transference to the Medical Staff College in London would not entail a loss to the successful candidates for the Indian Medical Service, for he would instruct both the junior and senior classes at the college, so that his valuable teaching and the influence he had so long and beneficially exercised at Netley would still be exercised for the good of both services. They were also very fortunate in having Colonel Macleod as professor at Netley; he was a tower of strength to the school to which he gave the benefit of his great teaching ability and long experience. They might also expect assistance for the teaching staff here, so that they had much to be thankful for and especially that the Advisory Board for the Army Medical Services had undertaken the supervision of the course of instruction carried out at Netley and they might now hope that the school would remain available for lieutenants of the Indian Medical Service until a similar course could be provided elsewhere. Many present could bear testimony to the great value of the laboratory course which they had undergone in hygiene and pathology at the Staff College in London under the direction of the Advisory Board as an important part of the War Office reorganisation scheme. Those interested in the Indian Medical Service considered it to be essential that the men who proceeded from Netley straight to service in India should have the benefit of clinical instruction under skilled guidance in the great hospital at Netley directly after the laboratory course—whilst methods and processes were fresh in the mind—for greater facilities and more clinical material in tropical diseases were available there than elsewhere in the United Kingdom. Professor Macleod had kindly read a most gratifying report on the work of the class during the course now closed and he heartily congratulated both the professors and the class on that report. Gentlemen (he concluded), you will soon be called on to put to full use the valuable knowledge you have acquired during your curriculum and we shall watch your careers with much interest. You have gained entrance to a grand service with great traditions and made famous by many celebrated names. I commend to your perusal a most interesting account by Surgeon-General W. B. Beatson, of "The Indian Medical Service, Past and Present," first published in the *Asiatic Quarterly Review* for October last. In his paper Surgeon-General Beatson gives a history of the service, as far as it can be ascertained from the records which he searched, from its origin in the latter part of the sixteenth century, and he mentions most of the eminent men who have contributed, up to a comparatively recent date, to the fame and renown of our grand service. Surgeon-General Beatson concludes with the following well-deserved tribute:—

> Since 1880 the Indian Medical Service has been completely reorganised, and in many respects improved. Study of its past history reveals how closely it has been associated with the foundation of the British Empire in India; how great has been its influence in supporting and developing it, in harmonising differences, and in reconciling to British rule the multitude of races and tribes which constitute the people of India. It tells how much has been done by Indian medical officers to increase our knowledge of Indian products and the development of industries arising out of them; how it has originated and developed great departments of the public service.
>
> Indian medical officers have been largely concerned in bringing to perfection the post and telegraph systems, the forest department, the management of gaols, the system of State sanitation, and have held medical charge—executive and administrative—of the military and civil stations of India. They have helped to introduce the study of English literature and science into the scheme of native education in India.
>
> They originated the system of medical education which is now carried on in the Presidency towns and numerous other centres. By means of Indian officers a system of medical education has been established and has resulted in the formation of a class of well-educated native medical practitioners and subordinate warrant medical officers who administer the hospitals and dispensaries provided everywhere by a benevolent Government for the relief of the sick and suffering.

Surgeon-General TOWNSEND thanked Sir William Hooper for coming to Netley to distribute the prizes and for his admirable address; he said that he had that morning received a letter from Sir Joseph Fayrer, which he should like to read:—

> DEAR SURGEON-GENERAL TOWNSEND,—Pray accept my warm thanks for the kind invitation you have just sent me to attend the distribution of prizes at Netley on the 10th inst., and also my regret that I am unable to avail myself of it.
>
> For many years I have been a deeply interested attendant of these meetings and I rejoice to know that they are to continue. Having long known what valuable services the Army Medical School has rendered to my old and much-loved service, I am anxious to express to the candidates my warm gratification that the old meetings are to be continued and my earnest hope that the school will long continue to furnish able and competent officers as hitherto.
>
> I regret my absence, necessitated by the state of my health which does not admit of my taking a long journey in winter, the more that it deprives me of an opportunity of expressing, as one of the oldest members of the Indian Medical Service, my congratulations to Sir William Hooper on the honour which has recently been bestowed on him, which is but a fitting acknowledgment of his services to the State, both in India and at home, as well as of his consistent and strenuous advocacy of the claims of the service which he adorns and which owes him so much for all he has done for it.
>
> Will you also convey my heartiest congratulations to the successful candidates and say how much I regret being absent on this interesting occasion, and offer them my best wishes for success in the noble service which they are now entering? Yours sincerely,
>
> J. FAYRER.

Surgeon-General Townsend brought the proceedings to a conclusion by wishing the young officers God-speed and every success in India. The company was subsequently entertained at luncheon by the officers of the Royal Army Medical Corps.

ASYLUM REPORTS.

Gartloch Asylum, Glasgow (*Report for the year ended May 15th, 1902*).—The average number of patients resident during the year was 567, comprising 290 males and 277 females. The admissions during the year amounted to 262—viz., 136 males and 126 females. Of these 174 were first admissions. Dr. W. A. Parker, the medical superintendent, states in his report that the most prolific immediate causes of insanity during the year were alcohol and syphilis. In 99 out of 262 admissions, or 37 per cent., there was a history of alcoholism and in 89 out of the 99 alcohol seemed to be the prime factor in the causation of the insanity. The number of patients discharged as recovered during the year amounted to 107, comprising 60 males and 47 females, or 18·9 per cent. of the average number resident. The deaths during the year were 52, or 9·2 per cent., as calculated on the same basis. Of the deaths three were due to renal disease, six each to senile decay and cerebral hæmorrhage, 10 to pulmonary and other forms of tuberculosis, 15 to general paralysis of the insane, and the rest to other causes. A sanatorium for the isolation and treatment of consumptive patients was opened in the autumn of 1902. Four cases of serious fracture of bones occurred during the year, one of these being the fracture of a femur sustained by a patient in an attempt at suicide by jumping through a window. For a short interval during the year the asylum had to be closed to visitors owing to the prevalence of small-pox in Glasgow, but happily the precautions taken sufficed to keep the disease at bay. The Commissioners in Lunacy state in their report that the asylum was found to be in excellent order, that the condition of the patients as a whole produced a favourable impression, and that the medical case-books and registers were carefully and well kept. The committee of management states in its report that plans for the enlargement of the asylum which had been accepted a year ago had been departed from in the meantime. Arrangements for increasing the lavatory accommodation in the official block of the asylum and at the mortuary have been made, and the drainage of the moss-land which forms part of the estate near the loch has been almost completed.

London County Asylum, Colney Hatch (*Report for the year ended March 31st, 1902*).—The average number of patients resident during the year was 2505, comprising 914 males and 1591 females. The admissions during the year amounted to 473—viz., 145 males and 328 females. Of these, 389 were first admissions. Dr. W. J. Seward, the medical superintendent, states in his report that the admissions included 36 cases of epilepsy and 44 of general paralysis and that 25 per cent. of the patients admitted were stated to have shown a suicidal tendency before admission. With regard to the probable causes of insanity, hereditary tendencies were ascertained to exist in 25 per cent. of the cases and in 5 per cent. there was congenital defect; 28 per cent. had been under treatment for previous attacks and 13 per cent. were known to be of intemperate habits. "The number of Jewish patients admitted during the year was 71, the great majority of whom were Russian Poles, and at the present time there are 244 Jewish patients in the asylum." The number of patients discharged as recovered during the year amounted to 194, comprising 41 males and 153 females, or 7·7 per cent. of the average number resident. The deaths during the year amounted to 206—viz., 76 males and 130 females, or 8·2 per

cent. as calculated on the same basis. Of the deaths, nine were due to pneumonia, 10 to cardiac disease, 14 each to epilepsy and senile decay, 26 to colitis, 29 to pulmonary tuberculosis, 36 to general paralysis of the insane, and the rest to other causes. There has been a considerable amount of serious illness on the female side of the asylum during the year, including cases of enteric fever, scarlet fever, and colitis. The Commissioners in Lunacy state in their report that the patients were found remarkably tranquil and on the whole contented, that many of the wards were improved as regards their lighting and ventilation, and that the medical case-books and pathological records were well kept. The committee of management states in its report that plans have been prepared and approved by the Home Secretary for the erection of an isolation hospital, and for this purpose a sum of £2000 has been voted. The farm shows a profit of £652 for the year. The expenditure on repairs has amounted to £8270 5s. during the year, while the sum of £281 has been expended on additions, alterations, and improvements.

THE BLOODLESS REDUCTION OF DISLOCATION OF THE HIP:

A DEMONSTRATION BY PROFESSOR LORENZ.

PROFESSOR A. LORENZ of Vienna demonstrated on Jan. 14th at the City Orthopædic Hospital, Hatton-garden, London, E.C., his bloodless method of reducing congenital displacement of the hip. He performed the operation on two cases, one being a case of bilateral congenital displacement of the femora and the other a unilateral displacement. This was followed by a demonstration of the method adopted in the treatment of congenital club-foot. He was aided by his assistant, Dr. Friedrich Müller, Mr. J. Jackson Clarke, Mr. John Poland, and Mr. Noble Smith, and an audience of over 90 medical men watched his procedure. His remarks, which he gave in English, were frequently received with applause and his reception was altogether of a most cordial character.

The proceedings were opened by Mr. NOBLE SMITH introducing Professor Lorenz to the meeting in a short speech in which he said that though a distinct expression of opinion adverse to the operation advocated by Professor Lorenz had been definitely put forward at the Clinical Society of London quite recently, still it was the custom in England to give everyone a fair field and no favour and that was all that Professor Lorenz wished for.

Professor LORENZ while he was operating said he was glad to take advantage of the occasion to communicate theoretically and practically one of his bloodless methods. The most important of these methods was the treatment of congenital hip dislocation by what he called "the functional weight-bearing method." The first step in the treatment was to place the head of the femur into the acetabulum. The possibility of this reduction was limited by the age of the patient. In very young children, of course, there would never be any difficulty in pulling down the head to the right place; in older children or in adults there was less possibility of doing so. To accomplish the reduction all soft parts, in particular the long muscles, must be stretched, and, if necessary, torn, so as to overcome their resistance. The adductors showed the greatest resistance. The anterior muscles offered a great resistance which must be overcome by traction and in case of necessity by over-extension. The posterior muscles offered less resistance which could be considerably lessened by bending the knee. It became possible by these manipulations to pull down the femoral head so as to bring it opposite the acetabulum and thus the preparatory steps of the treatment were finished. The real reduction—i.e., the placing of the head into the acetabulum—could be done by traction and by bringing pressure to bear on the trochanter. He preferred the reduction by forced abduction which was kept up until the well-known signs of the slipping of the head over the posterior border of the acetabulum could be felt. If the acetabulum were of normal shape and size the leg could be brought down to its normal position without any further delay. But as in these cases the acetabulum was of subnormal size the head would slip out of it immediately after the leg was brought into even an approximately normal position. In order to retain the head in its place it was necessary to put the leg in the position of right-angled abduction. In case of great instability of the replaced head, to this abduction a slight hyper-extension had to be added. In order to add to the security of fixation of the head in the acetabulum it was expedient to stretch and to enlarge the anterior part of the capsule by rotary movements of the thigh. In the new position all the flexors of the knee-joint were too short so that there was rigid flexion of the knee. This was a symptom which indicated the completeness of the reduction. This contracture must be corrected by stretching while the patient was still under the anæsthetic. The extreme abducted position of the leg must be fixed by a plaster-of-Paris cast which, in order to present all the details, was applied in the presence of his audience. Continuing, Professor Lorenz said that his routine was to leave the plaster-of-Paris cast undisturbed for six months at least, sometimes for even longer. Of course, he took all necessary precautions to keep the skin under the cast in a healthy condition. The cast was applied over knitted drawers, underneath which a three-inch calico band ran, protruding at both ends. By pulling this band in different directions a regular rub-down was administered. His principle guiding the after-treatment, after the cast was removed, was to keep the head of the femur pressed against the acetabulum. He did not try to correct the position of the legs in any hurry but allowed only so much reduction of the extreme abduction as was indispensable for letting the child get about with spread legs during the day. At night the primary extreme abduction was reinstituted; for this purpose a wedge-shaped cushion was adjusted between the legs and fastened there, the patient being in the recumbent posture. Another important feature of the after-treatment was appropriate gymnastic exercise, which mainly consisted in passive and active flexions of the hip in order to procure mobility. Professor Lorenz thought that next to congenital dislocation of the hip-joint the most frequent congenital deformity was congenital club-foot. The treatment of this deformity in the newly-born was almost uniformly a bloodless one and he advocated his "bloodless modelling method" as one which thoroughly cured the deformity in the newly-born, so that a bloody operation in the more advanced age did not become necessary. In explaining this method he said it consisted, firstly, in overcoming the shortening of the soft parts, whatever they might be—i.e., the skin, the subcutaneous tissue, the tendons, the fascia, and the ligaments. It was very important not only to overcome the resistance of these shortened soft parts, but this resistance had also to be practically annihilated. By merely correcting the deformity the soft parts were stretched, but their elasticity would counteract the correction and as soon as the foot was let go it would return to the wrong position. If at this stage of affairs the foot were retained in its corrected position by any appliances, casts, or splints there would be painful sores on the points most exposed to pressure. The principle of his modelling was to keep on with the single acts of correction until the elasticity of the tissues was completely destroyed, so that the foot rebounded no more into its previous wrong shape. The foot must become "as pliable as a piece of wet cloth." In this state he could mould it in almost any shape and it would stay there without any tendency to return to the previous position. As to the special technique, it was entirely erroneous to try to redress the deformity, so to say, in its bulk. The deformity must be divided into its component parts and be overcome in a certain order. First came the correction of the faulty adduction, then the straightening out of the extreme inflection over the instep, then the equinus position had to be attacked, and then the supination. After this gradual correction was accomplished the complete reduction of the deformity *in toto* was feasible. The cast might now be applied without any danger of pressure and its sequelæ. It must be kept in mind that by this rather forcible treatment slight disturbances of circulation were caused, so that a swelling of the limb resulted. This circumstance necessitated the following precautions. Any cast applied must be fenestrated so that it was possible to keep the condition of the foot under permanent and full control. It was his principle to make sure that the circulation in the extreme tips of the toes was perfect before dismissing the child with its cast. This cast could be kept on the foot for several months and renewed after removal until the foot was in complete valgus position even after being freed from all dressings. Then gymnastic exercises and massage should be resorted to, the aim being to develop and to strengthen the pronators so that the valgus position was maintained by the tonicity of these muscles.

Looking Back.

FROM

THE LANCET, *SATURDAY, JAN.* 15, 1825.

SURGICAL LECTURES,

DELIVERED BY

MR. ABERNETHY.

Theatre, St. Bartholomew's Hospital.

LECTURE 14.[1]

Nervous Affections.

I say that there is a certain *disorder* of the nerves of the part antecedent to *disease* in the part. Suppose that there is disturbance in any part, you cannot say that it is disease; it begins with irritation, and therefore I object to the word disease in that sense. Functional disorder precedes any change in the structure of the part, but I believe it to be originally nervous. I say to persons who come to me with weakness of the muscles, spasm, and irritation, occurring in any part of the body, that it is the result of something wrong in the nervous system as a whole. I could quote plenty of cases illustrating this, showing that local irritation and disease are the effect of something wrong in the nervous system. This is very well exemplified in the complaints which attend dentition in children, where the nervous irritation sometimes disorders all the parts of the body, there are convulsions, weakness of the muscles, the arms are turned out and sometimes inwards, and so on. The larynx also becomes affected, and ah! persons lose their voices all of a sudden, all through an affection of the nerves of the part.

Then again the nerves of a part may be influenced by something operating on the trunks of the nerves leading to those parts; as in injuries or affections of the spinal column, all the nerves in the parts supplied from below the part of the medulla spinalis injured, will be deprived of their vitality. Again, affections of the nerves of the cerebrum may produce local affections in every part of the body. We cannot conceive disease to be merely local; there must always be a plurality of parts affected. The subject is one difficult to explain; but what I want chiefly to call your attention to is, a very painful affection of the nerves of a part called *Tic Douloreux*. It was a rare thing, in the early part of my life, to see many cases of disease produced by increased vascular action, which are now common; and so it is with diseases depending on an undue nervous action in a part; for I do not think there was such a thing as *tic douloreux* ever dreamt of in my time. How this comes, I don't know.

[1] An excerpt only of the report of the lecture is transcribed.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 9164 births and 5350 deaths were registered during the week ending Jan. 10th. The annual rate of mortality in these towns, which had been 19·6, 16·9, and 20·0 per 1000 in the three preceding weeks, declined again last week to 18·5 per 1000. In London the death-rate was 18·8 per 1000, while it averaged 18·4 in the 75 other large towns. The lowest death-rates in these towns were 10·0 in Hornsey, 10·9 in Handsworth and in West Hartlepool, 11·8 in Walthamstow, 12·3 in Southampton, 12·4 in York, and 12·7 in Leyton; the highest rates were 21·7 in Manchester, 22·7 in West Bromwich and in Rochdale, 23·7 in Liverpool, 22·4 in Wolverhampton 24·4 in Rhondda, 25·2 in Oldham, and 58·2 in Great Yarmouth. The 5350 deaths in these towns last week included 504 which were referred to the principal infectious diseases, against 620, 493, and 603 in the three preceding weeks; of these 504 deaths 136 resulted from measles, 132 from whooping-cough, 73 from diphtheria, 65 from scarlet fever, 50 from diarrhœa, 38 from "fever" (principally enteric), and 10 from small pox. No death from any of these diseases was registered last week in Hornsey, Bournemouth, Reading, Norwich, Burton-on-Trent, Bootle, Warrington, Barrow-in-Furness, Huddersfield, Halifax, York, or Stockton-on-Tees; while the highest death-rates from the principal infectious diseases were recorded in West Ham, Hastings, Smethwick, Liverpool, St. Helens, Tynemouth, Newport (Mon.), and Cardiff. The greatest proportional mortality from measles occurred in Hastings, Devonport, Walsall, Liverpool, Salford, Tynemouth, Newport (Mon.), and Cardiff; from scarlet fever in Great Yarmouth, King's Norton, Coventry, and St. Helens; from diphtheria in Hastings, Hanley, Smethwick, Bury, and Preston; from whooping-cough in Tottenham, West Ham, Oldham, and Cardiff; and from diarrhœa in Wolverhampton. The mortality from "fever" showed no marked excess in any of the large towns. Of the 10 fatal cases of small-pox in these towns six were registered in Liverpool and one each in London, Derby, Oldham, and Preston. The Metropolitan Asylums hospitals contained 10 small-pox patients on Saturday, Jan. 10th, against 21, 17, and 14 on the three preceding Saturdays; four new cases were admitted during last week, against five, none, and one in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 2487, 2528, and 2378 at the end of the three preceding weeks, had further declined to 2219 at the end of last week; 223 new cases were admitted during the week, against 279, 205, and 214 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 408, 343, and 415 in the three preceding weeks, declined again last week to 354, and were 203 below the corrected average number. Influenza was returned as the primary cause of 39 deaths in London last week, against 37, 28, and 37 in the three preceding weeks. The causes of 74, or 1·4 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. The causes of all the deaths were certified in West Ham, Bristol, Leicester, Salford, Leeds, Newcastle-on-Tyne, and 42 other smaller towns; the largest proportions of uncertified deaths were registered in Hanley, Birmingham, Smethwick, Liverpool, Warrington, Sheffield, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 21·1, 21·3, and 21·6 per 1000 in the three preceding weeks, further rose to 22·6 per 1000 during the week ending Jan. 10th, and was 3·8 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 17·0 in Perth and 17·3 in Greenock to 24·2 in Leith and 24·4 in Glasgow. The 740 deaths in these towns included 24 which were referred to whooping cough, 22 to diarrhœa, 15 to measles, seven to diphtheria, seven to "fever," and three to scarlet fever, but not one to small-pox. In all 78 deaths resulted from these principal infectious diseases last week, against 68, 59, and 77 in the three preceding weeks. These 73 deaths were equal to an annual rate of 2·4 per 1000, which was 0·8 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping cough, which had been 20 and 33 in the two preceding weeks, declined again last week to 24, of which 17 were registered in Glasgow, two in Edinburgh, and two in Dundee. The deaths from diarrhœa, which had been 18 and 14 in the two preceding weeks, rose again to 22 last week, and included 14 in Glasgow, two in Edinburgh, two in Aberdeen, and two in Greenock. The fatal cases of measles, which had been five, six, and 10 in the three preceding weeks, further increased last week to 15, of which 10 occurred in Aberdeen, two in Glasgow, and two in Edinburgh. The deaths from diphtheria, which had been four, six, and 13 in the three preceding weeks, declined again to seven last week, and included three in Glasgow, two in Edinburgh, and two in Dundee. The fatal cases of "fever," which had been six, six, and four in the three preceding weeks, rose again last week to seven, of which four were recorded in Glasgow. The three deaths from scarlet fever corresponded with the

number in each of the two preceding weeks and included two in Paisley. The deaths referred to diseases of the respiratory organs in these towns, which had been 193 and 158 in the two preceding weeks, further declined last week to 152, but slightly exceeded the number in the corresponding period of last year. The causes of 31, or more than 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 30·8, 24·6, and 29·4 per 1000 in the three preceding weeks, declined again to 26·8 per 1000 during the week ending Jan. 10th. During the past four weeks the death-rate has averaged 27·7 per 1000, the rates during the same period being 19·0 in London and 19·8 in Edinburgh. The 195 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 19 from the number in the preceding week, and included 14 which were referred to the principal infectious diseases, against 20, 21, and 23 in the three preceding weeks; of these, three resulted from diphtheria, three from diarrhœa, two from measles, two from scarlet fever, two from whooping cough, and two from "fever." These 14 deaths were equal to an annual rate of 1·9 per 1000, the death-rates last week from the same diseases being 1·7 in London and 1·4 in Edinburgh. The fatal cases of measles, which had been nine, seven, and nine in the three preceding weeks, declined again last week to three. The deaths from diarrhœa, which had been three, four, and three in the three preceding weeks, were again three last week. The mortality both from scarlet fever and from diphtheria showed a decline from that recorded in the preceding week. The 195 deaths in Dublin last week included 37 of children under one year of age and 57 of persons aged 60 years and upwards; the deaths of infants and those of elderly persons corresponded with the respective numbers in the preceding week. Six inquest cases and six deaths from violence were registered, and 62, or nearly a third, of the deaths occurred in public institutions. The causes of 19, or nearly 10 per cent., of the deaths in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING DECEMBER, 1902.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of cases reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 7·4 per 1000 of the population, estimated at 4,579,107 persons in the middle of last year. In the three preceding months the rates had been 9·1, 10·0, and 9·1 per 1000 respectively. The rates were considerably below the average in Paddington, Kensington, Chelsea, Stoke Newington, the City of London, and Shoreditch, while they showed the largest excess in Hackney, Southwark, Battersea, Wandsworth, Deptford, and Lewisham. The prevalence of small-pox showed a slight decline from that recorded in the preceding month; of the 12 cases notified during December, four belonged to Islington, two to Fulham, two to Hackney, two to Finsbury, one to Stepney, and one to Poplar. The Metropolitan Asylums hospitals contained 14 small-pox patients at the end of last month, against 42, 19, and 17 at the end of the three preceding months; the weekly admissions averaged three, having also been three in each of the two preceding months. Scarlet fever was considerably less prevalent during December than in either of the two preceding months; this disease showed the highest proportional prevalence in St. Pancras, Hackney, Lambeth, Battersea, Wandsworth, Deptford, and Lewisham. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals, which had been 2656, 2820, and 2705 at the end of the three preceding months, had further declined to 2327 at the end of last month; the weekly admissions averaged 236, against 327, 358, and 301 in the three preceding months. The prevalence of diphtheria showed a slight decline from that recorded during November last; among the various metropolitan boroughs this disease was proportionally most prevalent in Fulham, Hackney, Wandsworth, Lewisham, and Woolwich. There were 927 diphtheria patients under treatment in the Metropolitan Asylums hospitals at the end of December, against 981, 941, and 1019 at the end of the three preceding months; the weekly admissions averaged 136 last month, against 142, 149, and 157 in the three preceding months. Enteric fever showed a considerably diminished prevalence last month as compared with recent months; the greatest proportional prevalence of this disease occurred in Kensington, Finsbury, Shoreditch, Stepney, and Wandsworth. The number of enteric fever patients in the Metropolitan Asylums hospitals, which had been 359, 401, and 339 at the end of the three preceding months, had further declined to 210 at the end of December; the weekly admissions averaged 30 last month, against 63, 59, and 37 in the three preceding months. Erysipelas was proportionally most prevalent in St. Marylebone, Holborn, Bethnal Green, Southwark, Camberwell, and Greenwich. The 33 cases of puerperal fever notified during the month included four in Wandsworth, three each in Battersea, Lambeth, and Camberwell, and two each in St. Marylebone, Islington, Hackney, Stepney, and Woolwich.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in public institutions having been distributed among the various boroughs in which the deceased persons had previously resided. During the five weeks ending Jan. 3rd the deaths of 7974 persons belonging to London were registered, equal to an annual rate of 18·2 per 1000 living, against 16·4, 16·0, and 17·4 per 1000 in the three preceding months. The lowest death-rates last month in the several metropolitan boroughs were 11·7 in Hampstead, 14·1 in Stoke Newington, 14·4 in Paddington, 14·7 in Hackney, 14·9 in Woolwich, and 15·1 in Wandsworth; the highest rates were 20·7 in Bermondsey, 20·8 in Stepney, 21·0 in Poplar, 21·9 in Holborn, 22·0 in the City of London, and 25·4 in Finsbury. The 7974 deaths from all causes included 764 which were referred to the principal infectious diseases; of these, 261 resulted from measles, 52 from scarlet fever, 116 from diphtheria, 204 from whooping-cough, 55 from enteric fever, one from simple continued fever, 75 from diarrhœa, and not one from small-pox or typhus. The lowest death-rates from these diseases were recorded in Kensington, Hampstead, Stoke Newington, Holborn, and Woolwich; and the highest rates in Fulham, St. Pancras, Finsbury, Stepney, Bermondsey, and Deptford. The 261 fatal cases of measles were 28 below the corrected average number; among the various metropolitan boroughs this disease showed the highest proportional mortality in St. Pancras, Stepney, Bermondsey, Camberwell, Deptford, Greenwich, and Lewisham. The 52 deaths from scarlet fever showed a decline of 32 from the number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Islington, Hackney, Bethnal Green, Lambeth, and Deptford. The 116 fatal cases of diphtheria were less than one-half of the corrected average number; among the various metropolitan boroughs this disease showed the greatest proportional mortality in Fulham, Chelsea, St. Marylebone, St. Pancras, Southwark, and Lewisham. The 204 deaths from whooping-cough were 39 in excess of the average number in the corresponding periods of the ten preceding years. This disease was proportionally most fatal in Fulham, City of Westminster, St. Marylebone, Islington, Finsbury, and the City of London. The 56 fatal cases of "fever" showed a decline of 34 from the corrected average number; among the various metropolitan boroughs the highest "fever" death-rates were recorded in Kensington, St. Pancras, Islington, Hackney, Lambeth, and Camberwell. The 75 deaths from diarrhœa slightly exceeded the number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Fulham, Chelsea, Stoke Newington, Holborn, and Southwark. In conclusion, it may be stated that the aggregate mortality in London last month from these principal infectious diseases was more than 22 per cent. below the average.

Infant mortality in London during December, measured by the proportion of deaths among children under one year of age to registered births, was equal to 155 per 1000. The lowest rates of infant mortality were recorded in Kensington, St. Marylebone, Hampstead, Hackney, the City of London, and Shoreditch; while the highest rates occurred in Chelsea, City of Westminster, Finsbury, Camberwell, Deptford, Greenwich, and Lewisham.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING DECEMBER, 1902.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1902.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,579,107	12	1441	910	—	280	4	33	561	—	3241	7·4	—	261	52	116	204	—	55	1		764	1·7	7974	18·2	155
West Districts.																										
Paddington	145,107	—	28	17	—	6	—	1	15	—	67	4·8	—	—	2	3	8	—	—	—	2	15	1·1	200	14·4	128
Kensington	177,606	—	26	15	—	16	—	1	23	—	81	4·8	—	1	2	2	3	—	3	—	2	13	0·8	280	15·4	124
Hammersmith	114,210	—	39	15	—	2	—	1	12	—	69	6·3	—	—	1	3	6	—	1	—	2	13	1·2	188	17·2	144
Fulham	143,102	2	46	43	—	8	—	1	13	—	113	8·2	—	7	—	7	10	—	1	—	6	31	2·3	245	17·9	146
Chelsea	74,018	—	12	15	—	3	—	—	6	—	36	5·1	—	3	—	4	2	—	—	—	3	12	1·7	131	18·5	210
City of Westminster	180,800	—	33	28	—	13	1	1	17	—	93	5·4	—	1	2	4	14	—	1	1	1	24	1·4	298	17·2	185
North Districts.																										
St. Marylebone	132,069	—	26	21	—	6	—	2	29	—	84	6·6	—	1	—	5	12	—	—	—	4	22	1·7	246	19·4	101
Hampstead	83,743	—	25	11	—	2	—	—	5	—	43	5·4	—	1	—	1	4	—	1	—	—	7	0·9	94	11·7	83
St. Pancras	235,596	—	90	49	—	17	—	—	27	—	183	8·1	—	21	2	9	8	—	5	—	3	48	2·1	452	20·0	147
Islington	337,268	4	105	59	—	19	—	2	38	—	225	7·0	—	10	6	5	31	—	7	—	4	63	1·9	571	17·7	153
Stoke Newington	51,700	—	15	4	—	—	—	—	7	—	26	5·2	—	—	—	—	—	—	—	—	2	2	0·4	70	14·1	135
Hackney	221,926	2	93	78	—	14	—	2	31	—	220	10·3	—	6	4	7	4	—	5	—	1	27	1·3	313	14·7	116
Central Districts.																										
Holborn	58,536	—	16	7	—	3	—	—	9	—	35	6·2	—	—	—	1	1	—	1	—	2	5	0·9	123	21·9	180
Finsbury	100,487	2	17	14	—	9	2	—	16	—	60	6·2	—	1	1	2	14	—	1	—	2	21	2·2	245	25·4	198
City of London	25,598	—	5	2	—	2	—	—	3	—	12	4·9	—	1	—	—	2	—	—	—	—	3	1·2	54	22·0	125
East Districts.																										
Shoreditch	117,980	—	12	16	—	17	—	—	15	—	60	5·3	—	6	1	2	2	—	2	—	1	14	1·2	191	16·9	96
Bethnal Green	129,889	—	35	25	—	2	—	—	25	—	87	7·0	—	9	3	1	—	—	—	—	1	14	1·1	249	20·0	138
Stepney	300,551	1	66	62	—	32	—	2	40	—	203	7·0	—	27	2	8	13	—	5	—	9	64	2·2	600	20·8	149
Poplar	169,214	1	38	42	—	10	—	1	8	—	100	6·2	—	12	—	5	8	—	1	—	2	28	1·7	340	21·0	160
South Districts.																										
Southwark	206,825	—	74	45	—	13	—	1	34	—	167	8·4	—	9	3	8	9	—	2	—	8	39	2·0	408	20·6	162
Bermondsey	130,218	—	36	19	—	3	—	1	15	—	74	5·9	—	31	2	3	2	—	1	—	1	40	3·2	258	20·7	181
Lambeth	305,102	—	118	40	—	21	1	3	34	—	217	7·4	—	19	8	3	18	—	6	—	4	58	2·0	583	19·9	164
Battersea	171,401	—	89	42	—	8	—	3	13	—	155	9·4	—	6	3	4	7	—	2	—	1	23	1·4	287	16·2	156
Wandsworth	241,810	—	112	57	—	23	—	4	32	—	258	11·1	—	2	2	8	8	—	3	—	2	25	1·1	350	15·1	174
Camberwell	262,776	—	93	45	—	14	—	3	41	—	196	7·8	—	23	3	6	4	—	6	—	5	47	1·9	476	18·9	186
Deptford	111,577	—	65	16	—	4	—	1	15	—	101	9·4	—	41	3	3	5	—	1	—	3	56	5·2	216	20·2	218
Greenwich	98,013	—	34	21	—	6	—	—	14	—	75	8·0	—	12	—	2	—	—	—	—	2	16	1·7	161	16·1	198
Lewisham	132,432	—	68	34	—	4	—	1	18	—	125	9·8	—	11	2	6	4	—	—	—	2	25	2·0	204	16·1	195
Woolwich	119,566	—	27	36	—	2	—	2	6	—	73	6·4	—	—	—	4	5	—	—	—	—	9	0·8	171	14·9	129
Port of London	—	—	—	—	2	—	1	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified :—Surgeons : C. A. G. Phipps to the *Vivid*, for disposal, and J. A. Thompson to the *Wildfire* for disposal.

ROYAL ARMY MEDICAL CORPS.

Colonel W. F. Stevenson, C.B., is granted the temporary rank of Surgeon-General whilst employed at the Medical Staff College. Dated Jan. 14th, 1903. Colonel J. L. Notter retires on retired pay. Dated Jan. 14th, 1903. Major A. A. Watson having relinquished his temporary commission for service in South Africa, is granted the honorary rank of Major in the Army, with permission to wear the uniform of the corps. Dated Sept. 25th, 1902. Major D. M. Saunders is appointed Staff Officer to the Principal Medical Officer, 3rd Army Corps, Ireland.

Major A. B. Hinde is posted to the Bombay District, Captain E. W. P. V. Marriott to the Quetta District, and Lieutenant A. J. Williamson to the Scinde District. Lieutenant-Colonel T. B. A. Tucker, retired pay, assumes medical charge of His Majesty's Prisons at York.

IMPERIAL YEOMANRY (IN SOUTH AFRICA).

28th Battalion: Temporary Captain T. B. McA. Sherwen, medical officer, resigns his commission and is granted the honorary rank of Captain in the Army, with permission to wear the uniform of the corps. Dated Nov. 26th, 1902.

33rd Battalion: Temporary Captain A. F. Kennedy, medical officer, resigns his commission, and is granted the honorary rank of Lieutenant in the Army, with permission to wear the uniform of the corps. Dated Dec. 13th, 1902.

THE HEALTH OF THE RUSSIAN ARMY IN 1899.

From an official report lately published we learn that the average strength of the Russian army in 1899 was 1,083,287 of all ranks and inclusive of 42,537 commissioned officers. For the rank and file the death-rate during the twelvemonth was 4·84 per 1000, this being the first time that it has fallen below 5 per 1000. Among the officers the mortality was considerably higher, their death-rate being returned as 6·23 per 1000. As regards the sick-rate a similar disproportion is observable, that for the men being 310·05 per 1000 of strength and that for the officers 423·8 per 1000. Only cases of serious disease or injury are included in this category, no fewer than 2,050,638 slight ailments having been disposed of out of hospital. If all cases of disability necessitating absence from duty had been entered in the hospital records, according to the practice obtaining in our army, the sick-rate for non-commissioned officers and men would be 2280·4 per 1000. The loss by invaliding during the year was at the rate of 24·7 per 1000 of strength, the actual number of soldiers found unfit for service having been 25,654. In the order of their frequency the principal causes that determined invaliding were as follows: (1) Affections of the pleura and lungs; (2) herniæ; (3) diseases of the ear; (4) diseases of the nervous system; (5) eye affections; (6) heart affections; (7) abdominal affections; (8) diseases of the throat; (9) articular complaints; and (10) diseases of the bones. The admissions to hospital were chiefly due to the following affections, the figures indicating the number of cases of each affection in 1000 entries from all causes: (1) Infectious diseases, 121·0; (2) pneumonia, 98·3; (3) intermittent fevers, 89·3; (4) general diseases, 79·3; (5) bronchial affections, 51·0; (6) venereal diseases, 40·5; (7) diseases of the stomach and bowels, 24·3; (8) influenza, 23·8; (9) pulmonary tuberculosis, 19·8; (10) wounds, 17·8; (11) pleurisy, 17·0; (12) affections of the extremities, 16·5; (13) throat affections, 14·5; (14) affections of the circulatory system, 10·8; (15) affections of the nervous system, 8·8; (16) anæmia and general debility, 8·2; (17) scurvy, 6·3; (18) urinary affections, 5·5; (19) erysipelas, 3·5; (20) sunstroke, 2·3. The deaths from diseases numbered 4629 in all, 64 per cent. being due to pulmonary tuberculosis and inflammatory affections of the lungs and pleura. A considerable portion of the report is devoted to enteric fever, which was responsible for 6639 admissions and 1037 deaths, the mortality being 15·6 and the invaliding-rate 10·3 per 100 cases. Of late years energetic measures have been taken to eradicate the disease from the army, including rigorous cleanliness and disinfection of cantonments, the isolation of patients, sterilisation of drinking water, a more judicious system of drill and exercise for young soldiers, and the interdiction of voluntary labour. Formerly it was customary to permit the troops to engage in work on their own account among civilians and it was believed that in this way they acquired the seeds of the disorder. In St. Petersburg in 1896 there were 209 cases of enteric fever among the Guards, but in consequence, as it is thought, of the new order the number in 1899 fell to 78, and this notwithstanding the fact that amongst the civil population there was no corresponding diminution in the incidence of the disease, but, on the contrary, a marked increase. Small-pox, although much less common than it was, is still a regrettable source of sickness and mortality in the army. In 1899 there were 35 deaths from it out of 165 cases. 277 cases of a modified form of the disease were also recorded, two cases being fatal. Venereal affections, in spite of vigorous repressive efforts, are still widespread. In the year under report the sick-rate was 37·9 per 1000 of strength; nine men died and 119 were permanently invalided. Scurvy, too, has not yet been completely rooted out. In 1899 822 men were affected by it and 18 died. The disease likewise occasioned a loss of 185 soldiers who had to be invalided. It is by chest affections, however, that sickness and mortality in the Russian army are most severely tried. In 1899 a sick-rate of 39·9 per 1000 and a death-rate of 1·64 per 1000 were due to this cause which is thought to be in a great measure remediable.

VITAL STATISTICS OF THE DUTCH NAVY FOR 1900.

The following table shows the sickness and mortality in the several sections of the Dutch navy during the year 1900 :—

—	Strength.	Admissions to hospital per 1000.	Deaths per 1000.
Home stations—			
Sailors	4481	1027	3·39
Marines...	816	589	3·67
Ships on special service... ...	767	1830	5·21
West Indies...	98	2010	*Nil.*
East Indies—			
Europeans	2357	1770	8·90
Natives...	963	1180	8·30

Out of 1666 recruits for the Dutch navy who were medically examined at Amsterdam in 1899 no fewer than 848, or rather more than half, were rejected as being permanently unfit for the service; while 181 more, or nearly 11 per cent., were remanded as temporarily unfit. In 1900 the corresponding returns were as follows: examined, 1566; permanently unfit, 724 (46 per cent.); temporarily unfit, 129 (8 per cent). A fruitful source of rejection was albuminuria which was found present in 8·5 per cent. of the total number of recruits examined in the biennium.

DEATHS IN THE SERVICES.

Surgeon-Major W. Shillito, late Bengal Army, on Jan. 5th, in his eighty-seventh year.

Surgeon-Lieutenant-Colonel Robert Thomas Alexander O'Callaghan, F.R.C.S. Irel., of the 1st Flintshire Royal Engineers (Volunteers), at his residence in Harley-street, W., on Jan. 12th, in his forty-fifth year. He volunteered for service with the army in the late war in South Africa and was attached to the Royal Army Medical Corps with the rank of major and acted as surgeon-in-chief of the Langman Hospital (mentioned in despatches, medal with clasps).

THE GERMAN LANDWEHR AND RESERVE.

It may be interesting to some of our military medical readers to have their attention called to a report by Dr. Schomburg, a staff surgeon of the German Army, which is published in the *Deutsche Militärärztliche Zeitung*, on the marching capabilities and endurance of men of the Landwehr and Reserve as determined by some recent experimental trials instituted in Germany for that purpose.

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on Jan. 13th, Sir J. N.

Dick, K.C.B., being in the chair, the sum of £90 was distributed among the several applicants.

THE DIRECTOR GENERAL.

A statement has appeared in the Service press to the effect that Inspector-General of Hospitals R. W. Coppinger will succeed Sir Henry J. Norbury, K.C.B., as Director-General of the Medical Department of the Royal Navy on the retirement of the latter officer in March next. We understand that it has not yet been definitely decided when Sir Henry Norbury will retire. In any case the rumour is probably inaccurate.

The hospital ship *Nubia* has arrived at Southampton with more than 400 invalids from South Africa on board.

Correspondence.

"Audi alteram partem."

THE SURGICAL TREATMENT OF PERFORATED TYPHOID ULCER.

To the Editors of THE LANCET.

SIRS,—The report of the discussion on this subject at the meeting of the Clinical Society of London held on Dec. 12th appeared in a recent issue of THE LANCET.[1] Two very important points were raised: (1) the difficulty of diagnosis of perforation having occurred (this was admitted by several speakers of very large experience); and (2) the frequency of a second ulcer perforating, &c., so that, in spite of successful suture of one ulcer, death followed the giving way of the second, which was generally situated very close to the first.

It may here be said that most frequently both ulcers have been found in the ileum within two feet, generally within 12 inches, of the ileo-cæcal valve, or in the first part of the ascending colon, just beyond that valve. Occasionally, however, the perforated ulcer, either one or both, when two give way, is in the descending colon or sigmoid flexure, as in one of Mr. H. J. Waring's cases reported at the same meeting of the Clinical Society.

Dealing with the second point first: in order to avoid the risks attending another perforation occurring simultaneously with the first or subsequently to successful suture of the first, I ventured at the meeting to suggest that in every case of such suture as a matter of precaution gauze drainage say for the first 48 hours should be employed. There need be no appreciable fear of a ventral hernia resulting from its use. The decided advantages presented by such drainage would be: 1. The gauze plug would minimise any risk from leakage from the sutured ulcer if there were only one. The risk of leakage in competent hands should, of course, be practically negligible. 2. Other ulcers in the immediate neighbourhood of that perforated are frequently seen to be so thin as to be not far from perforation; the gauze, by stimulating the formation of plastic lymph, would help to strengthen the weak spot, directly by the coating of lymph and indirectly by the formation of adhesions. (Compare the use of gauze plugs to cause adhesion of the liver and other organs to the abdominal wall a few days prior to incising and draining hydatid cysts, &c.) 3. Should a second ulcer give way, whether in the neighbourhood of the sutured one or at a distance from it, the risk of a fatal issue from septic peritonitis is diminished by providing a track for the escape of the toxic products, which otherwise, from their absorption under pressure, lead to a very rapidly fatal issue—sometimes within a few hours of the second perforation.

The onset of sudden pain and the escape of fœtid gas and discharge along this track would at once indicate the real nature of the condition and the advisability, perhaps, of enlarging the wound so as to suture the second perforation. Leaving aside the question whether such an attempt would be advisable or successful, if made, the existence of a way of escape for the gas and poisonous products from the wound would undoubtedly diminish the risk of a rapidly fatal termination.

The other suggestion I ventured to make was the use of local analgesia (eucaine, 1 in 1000 solution) in those difficult cases of diagnosis referred to above (1). Where there is no doubt about the diagnosis most of those present at the meeting of the Clinical Society seemed to agree as to the urgent necessity for laparotomy and suture, the risk of shock from operation and the use of general anæsthesia having to be accepted as unavoidable. Where there is a difficulty in the diagnosis of perforation it is obvious that the medical attendant would hesitate to expose his already weakened patient to the additional shock of a general anæsthetic and operation. As such hesitation may be, and frequently is, fatal, Osler, quoted by Dr. E. W. Goodall at the meeting, urges early exploratory incision in all suspicious cases.

The advantages of using local analgesia will hardly need demonstration to those who have used eucaine solution (1 in 1000) in general surgery. 1. There is, or need be, no pain or shock from beginning to end of exploratory incision, suture of perforation, and partial closure of wound (gauze drainage being advocated). 2. The presence of free gas in the peritoneum, obscuring the liver dulness, for instance, could be verified and the gas allowed to escape; the existence of a perforation could then be definitely ascertained and the rupture closed. 3. The prevention of the rapidly fatal paralysis of the heart, already weakened by the typhoid toxins, and referred to at the society's meeting by Sir Douglas Powell, from its displacement, the diaphragm being pushed up owing to the rapid onset of meteorism. This condition of acute distension of the large intestine is generally attributed to the associated extraordinary increase in the numbers of bacillus coli communis.

Under local analgesia the risk of shock from an exploratory laparotomy is so greatly diminished that it can be reasonably taken when the patient's condition would seem to be too dangerous to think of general anæsthesia. This being so, the meteorism might be readily and safely relieved by inserting a large hollow needle in the distended bowel exposed and brought to the surface of the laparotomy wound. This has frequently been done by surgeons for paralysis of the intestine secondary to complete obstruction, and much benefit has also followed irrigation of the alimentary canal with warm saline solution injected through the hollow needle used for the evacuation of the gas. The use of this saline, with or without weak formalin or other antiseptic solutions, by dealing with the cause of the meteorism would be beneficial in other ways, the hot saline solution, of course, tending greatly to relieve any shock present.

There is no doubt that many deaths from perforated gastric or typhoid ulcers, perforated appendix, &c., might be prevented by the timely use of an exploratory laparotomy; but the medical attendant, unless feeling absolutely convinced of a perforation, hesitates to expose his patient to the ordeal of such operation, chiefly because of the fear of shock from the use of general anæsthesia; naturally, too, dreading to urge operation unnecessarily, hesitating because in doubt as to whether perforation has actually occurred. Too often, alas, such hesitation itself has been fatal. It is for this reason that I have ventured to amplify my suggestion at the meeting of the Clinical Society as to the use of eucaine for exploratory laparotomy in any case where there is considerable evidence of the existence of perforation of typhoid or gastric ulcer, &c., yet a difficulty in making up one's mind on this all-important point.

I am, Sirs, yours faithfully,

Harley-street, W. H. J. CURTIS.

[1] THE LANCET, Dec. 20th, 1902, p. 1694.

THE LOW PHOSPHATES AND UREA IN THE URINE OF THE TUBERCULOUS.

To the Editors of THE LANCET.

SIRS,—Although having only a limited experience of the method of urinary examination described by Dr. A. W. Gilchrist in his recent paper on the above subject[1] I am able to confirm in a way the general conclusions which he has arrived at. It is to be regretted, however, that no clinical record of the patients whose urine was examined by Mr. E. G. Clayton[2] is available; only with such information can the relative value of the conflicting chemical results and theories be arrived at. The reason why Mr. Clayton reached the conclusion

[1] THE LANCET, Nov. 29th, 1902, p. 1456.
[2] THE LANCET, Sept. 6th, 1902, p. 666.

that the urine from two cases of tuberculosis of the bladder and diabetes respectively had many points in common probably resides in the fact that the subjects of the disease in question are either constitutional "hyperacids" or the subjects of retarded nutrition—Bouchard's "ralentis." In the first case the low specific gravity, the rising chlorides, and the pale colour of the urine indicate amongst other signs that the defences of the organism are breaking down and that the tuberculous affection of the bladder of twelve months' standing is threatening to become generalised. The organism, as Dr. Gilchrist says, is becoming demineralised, the chlorides now following an earlier excessive excretion of phosphates. The supposition that this specimen of urine is taken from the subject of a gouty or atonic scrofulous diathesis, where such a resistance to infection is likely to occur, is rendered probable by the low figure of the phosphates (0·84 gramme) given by Mr. Clayton. If here the solid residue is calculated by densimetry, as Dr. Gilchrist did in his paper, the proportion of phosphoric acid stands at 1 in 33; precisely the same proportion is also found by taking the average of the three specimens of Mr. Clayton's case of glycosuria. It would be instructive to know the diet prescribed in this case of glycosuria; the relatively high urea and phosphates found in specimen C lead to the conclusion that meat was a liberal item in the patient's dietetic treatment.

Judging by Dr. S. Vere Pearson's[3] and Mr. A. W. Pereira's[4] clinical observations on the apparent uselessness of urea in the treatment of tuberculosis, Dr. Gilchrist's theoretical objections seem to be justified. Concerning the one point on which Dr. H. Harper and Dr. Gilchrist agree with most modern opinion—that is, on the necessity for a highly nitrogenous diet in the treatment and prophylaxis of tuberculosis—I should feel inclined to follow the suggestion of Dr. Gautrelet and to draw the supply of nitrogen at intervals from the leguminous plants; we know in fact that peas and lentils contain more nitrogen than meat in the proportion of about 46 to 42.

I am, Sirs, yours faithfully,

Nice, Dec. 22nd, 1902. J. C. B. STATHAM, Captain, R.A.M.C.

SIR THOMAS BROWNE'S EVENING HYMN.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 20th, 1902, p. 1702, the reviewer of a new edition of the "Religio Medici" states that he cannot call to mind any editor who has pointed out the similarity between Bishop Ken's Evening Hymn and the dormitive which Sir Thomas says he took "to bedward." In Gardiner's edition (1845) there is the following note: "Compare this with the beautiful and well-known 'Evening Hymn' of Bishop Ken, and these again with several of the Hymni Ecclesiæ, especially that beginning 'Salvator Mundi, Domine,' with which Ken and Browne, both Wyckhamists, must have been familiar."

I am, Sirs, yours faithfully,

Baltimore, Jan. 2nd, 1903. WM. OSLER.

THE DISCHARGE OF LARVÆ FROM THE STOMACH.

To the Editors of THE LANCET.

SIRS,—The references in THE LANCET of Sept. 27th (p. 891) and Nov. 29th (p. 1487), 1902, to the vomiting of the larvæ of dipterous insects, remind me that in the summer of 1900 I met with such a case. This was of an infant in arms, fed by the bottle, who was said to have vomited maggots. The mother was directed to preserve the maggots if the vomiting was repeated, and some days afterwards a cluster of about 35 or 40 larvæ was produced. These were alive and being placed in water lived till the next day. They were "club-shaped," tapering regularly from head to tail, and measured from four to eight millimetres in length; one was much longer, being about 11 millimetres. They had distinct red eyes. A number were sent to the Clinical Research Association, which said it was unable to identify them. It was necessary to take the mother's word that they were actually vomited by the infant, but there could be no reasonable doubt about it. They were only noticed twice and were probably not sought for in the motions. Beyond some slight gastro-intestinal disturbance common in bottle-fed infants in summer, there was little the matter with the child.—I am, Sirs, yours faithfully,

Edgeworthstown. J. F. KEENAN, M.B. R.U.I.

[3] THE LANCET, Nov. 22nd, 1902, p. 1383.
[4] THE LANCET, Nov. 29th, 1902, p. 1486.

RIGHT-HANDEDNESS AND LEFT-BRAINEDNESS.

To the Editors of THE LANCET.

SIRS,—With all due deference to a master in science like Sir Samuel Wilks I would like to observe that in this, as with many other rather obscure physico-mental acts, we should never lose sight of the three great fundamental modes and methods of reflex cerebral activity—reason, sensation, and will. Sensation inclines us to adopt modes of action most agreeable to the present comfort and pleasure of the individual; reason suggests what ought to be the mode; and will, or more properly speaking volition (for I suppose there must be a faculty of this nature), determines what the mode shall be. The determination of a preferential right handedness is one of these modes due to a cerebro-spinal *functional* activity. A subject of this kind, not easily susceptible of scientific demonstration, is very apt to make one drift into a form of physiological transcendentalism, but what I mean to urge is that there is no satisfactory and decided clinical evidence that right-handedness has a structural foundation but that all such manifestations depend on outside influences acting on the brain centres—the combined result of education and necessity. Let it be understood, however, that that centre is not preferential but a centre common to both the left and right side of the system. How otherwise explain the philosophy of habit and, indeed, of many of the well-recognised instincts of our nature? That the left hand should by no means hold a subservient position in reference to the right may readily be accepted if we consider the dual functional activity as seen in many handicrafts. In the days of a less exalted civilisation, before steam was so universally accepted as the great motor power, I have watched with interest and admiration the deftness with which the hand-loom weaver used both hands in his daily occupation. His was an ambidexterity illustrating not only the aristocratic position of the left hand but the fact of left-handedness being not only a possibility—a desideratum—but a necessity of his workaday existence. No one can deny that right-handedness is *preferential* and, indeed, almost a physical necessity because it appeals to the present, and often urgent, necessities of the individual. Left-handedness is *potential* and takes the position of a *reserve* force, a power which can be called into action under conditions of necessity when the other is in abeyance. This is all I claim for it. As Sir Samuel Wilks observes in his criticism, man is a two-sided animal with an inequality as to functional power on one side as compared with the other. No doubt about this, but like many functional processes under the direct dominion of brain man's nature is amenable to outside influences and the conditions, as before remarked, of his environment. He can adapt himself to circumstances and make his left hand serve his needs if the right cannot. Hence education, hence training of children, hence the necessity of what we know as professional teaching—in short, of any kind or description of cult whatever. Apologising for the length and prosiness of this letter I trust that though I may, like Mr. Kipling's orang-outang "Bimi," seem to have "too much ego in my cosmos," you will give me credit for the desire to give an all-important point like this all the careful consideration it deserves.

I am, Sirs, yours faithfully,

Rothwell, Northamptonshire. JAMES MORE, M.D. Edin.

INTRAVASCULAR ANTISEPSIS.

To the Editors of THE LANCET.

SIRS,—Due importance will be attached by clinical observers to the results published in THE LANCET of Jan. 10th, p. 98, of Dr. J. M. Fortescue-Brickdale's able investigations into the subject of intravenous antisepsis, which conclusively demonstrate the inefficacy for direct germicidal purposes of our antiseptics of the day, used in the shape of intravenous injections. Intravenous medication, however, is a distinct and much wider subject to which it may be premature to apply the same sweeping conclusions. Indeed, the proof that the injections are inert as germicides favours

the impression, which for my part I have long entertained, that their beneficial effects are due to some other mode of action which it would be important to investigate and opens up the question as to the nature and the range of their usefulness. Internal therapeutics have not yet been reduced to the exclusive administration of antiseptics only, and if other remedies are still worth administering by the mouth for the treatment of intravascular conditions such as atheroma, aneurysm, endocarditis, and blood diseases in general, it may not be unreasonable to keep an open mind as to the possible advantages of the shorter route. This also applies to the treatment of pulmonary affections, because of the directness of the road of access. In the case of acute pneumonia the effects I have obtained with injections of protargol have appeared to me to be sufficiently striking to deserve further consideration from the pathological, as well as from the clinical, standpoint. I am not prepared to say whether the rapid reduction in temperature and the manifest general improvement in the clinical condition of the patients were due to the minute dose of protargol (from one half to one grain) or to the bulk (from 20 to 40 cubic centimetres) of the saline solution injected. Possibly the normal saline solution alone might have acted as well. At any rate the successful employment of collargol in two cases of pneumonia has quite recently been reported by M. R. Moutard-Martin and M. P. Thaon,[1] and at the same meeting M. Netter[2] referred to his successful treatment of a very bad case of infective endocarditis by the same agent. The discovery of better remedies than the salts of silver may be hoped for in the future, but the results hitherto obtained with the help of the latter indicate that our study of the intravenous method should not be considered as closed but as barely opened as yet. I would be the last to advocate the indiscriminate use of this form of treatment. I have myself often refrained from using it because I consider that it should not be undertaken except by skilful and highly-trained operators. The procedure is difficult and not free from anxiety. These are also the limitations inherent to most of our life-saving surgical operations, but they have not been urged as arguments for depriving us of the benefit attaching to the risk.

I am, Sirs, yours faithfully,

Curzon-street, Mayfair, Jan. 12th, 1903. WM. EWART.

THE THORNTON HEATH SLATE CLUB AND DR. W. B. ADDISON.

To the Editors of THE LANCET.

SIRS,—By the kindness of a fellow practitioner my attention has been drawn to a paragraph in THE LANCET of Jan. 10th, p. 143, coupling my name with the word "advertisement." I enclose a letter from the secretary of the North Croydon Benefit Society showing that I was completely ignorant of the existence of the handbills you mention. I knew nothing of them; the possibility of the existence of such things had never even entered my mind. I have now severed my connexion with the club, which contains only 53 members, and is the only club appointment I have held during the seven years I have been in practice here. By putting the word "Advertisement" over your paragraph you distinctly accuse me of advertising. As I knew nothing of the handbills it is obvious that I have not been advertising and it is equally obvious that it is a scandalous thing that I should be accused by a paper of the supposed high standing of THE LANCET of doing a disgraceful act without a shred of proof that I knew anything of the matter at all. Your advice to me to withdraw my connexion with such clubs is quite unnecessary; my standard of medical etiquette is not only as high as any advocated by THE LANCET, but in view of the paragraph mentioned is really higher. Fortunately, my reputation among those of my fellow practitioners in this neighbourhood who are most anxious to uphold the dignity of the medical profession is such that I can honestly say they are more annoyed by your paragraph than I am.

If you have any wish at all that I should not be prejudged you will publish this letter in its entirety.

I am, Sirs, yours faithfully,

W. B. ADDISON.

Parchmore-road, Thornton Heath, Jan. 12th, 1903.

[INCLOSURE.]

"Fernlea," Westbrook-road, Thornton Heath, Jan. 11th, 1903.

SIR,—It having come to my knowledge that a paragraph appeared in your paper condemning Dr. Addison for allowing his name to be issued on handbills distributed in this neighbourhood I wish most emphatically to state that it was done without any consent being obtained from Dr. Addison; the bills were all distributed before he knew anything about it. I sincerely hope, in justice to Dr. Addison, and in order to allay anything I may have done to injure his reputation, you will publish this letter. I remain, yours truly,

F. J. RUNDLE,
Secretary, North Croydon Benefit Slate Club.

*** We are glad to learn that Dr. W. B. Addison's name has been taken in vain by the club from which he has severed his connexion.—ED. L.

[1] Bulletin et Mémoire de la Société Médicale des Hôpitaux de Paris, Dec. 26th, 1902, p. 1151. [2] Ibid.

THE MEDICAL MAN, THE CORONER, AND THE PATHOLOGIST.

To the Editors of THE LANCET.

SIRS,—On Jan. 2nd I was called at 9.30 A.M. to see an infant at 76, Speke-road. On arriving at the house I found that the child had been dead some time, the hands were clenched, the thumbs were turned in, the toes were drawn up, the tongue protruded slightly through the gums, and there was some mucus on the nostrils; the sides of the face were a deep purple. The child had been sleeping in bed with the parents who were in very poor circumstances. I sent the usual communication to the coroner's officer and the only acknowledgement I received from the coroner was a verbal message that Dr. Freyberger would let me know when he was going to make the post-mortem examination.

I inclose a report of the case and you will observe that Mr. Troutbeck delivered a little homily to the jury in which he pointed out the importance of employing a pathologist of special skill in these cases. Now I have been making post-mortem examinations in this neighbourhood for 18 years and I have given evidence before all the coroners who have held inquests in south-west London during that time. I have reported scores of similar cases in which the question always arises as to whether the convulsion, if any, which might have caused death arose from partial asphyxia due to overlaying or otherwise, and it stands to reason that the medical man who sees the child lying in the bed and who knows the people and their surroundings is in a far better position to judge of the case than a stranger who does not make a post-mortem examination until three clear days afterwards. I may mention here that the child was washed and laid out after I saw it, thus removing most of the external diagnostic signs, and there was nothing revealed by the post-mortem examination which could not be seen by any medical man who knew his work. In the circumstances I am utterly at a loss to understand the coroner's remarks, for there was nothing in the case calling for a special pathologist, while there was every reason to call in the medical man who first saw it.

I am, Sirs, yours faithfully,

LEONARD S. MCMANUS, M.D., M.Ch. R.U.I.

St. John's Hill, S.W., Jan. 12th, 1902.

*** We cannot attempt to explain what cases Mr. Troutbeck considers "special." Of course, the only medical witness who could help the jury in any practical way in such a case as the one detailed above was the practitioner who first saw the body.—ED. L.

MEDICAL FOLKLORE.—Recently at Luffincott, a little village in Cornwall, an unusual event took place. An agricultural labourer sat in the church porch on Sunday and collected half-a-crown in pennies from the congregation, the thirtieth donor giving a half-crown and taking up the 29 pence as change. A ring is to be made from the silver coin and by this ring the collector expects to be cured of fits. This is one of the relics of witchcraft which is still to be found in the remote parts of Devon and Cornwall.

THE THERAPEUTICAL SOCIETY.—The object of this new society, as stated in the "rules" which have just been issued, is "the advancement of knowledge in pharmacology and therapeutics by the holding of meetings, the reading of papers, the exhibition of drugs and specimens, and such other means as the council may determine." All duly qualified medical practitioners of either sex are eligible for fellowship, and the subscription is 10*s.* 6*d.* a year. Ordinary meetings will be held on one Tuesday afternoon in each winter month, from January, 1903, at 4 P.M.

BRISTOL AND THE NON-VENTILATION OF SEWERS.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

WHILE, on the one hand, strenuous efforts are being made to discover and to apply really effective methods of ventilating sewers, on the other a reaction has taken place and an impression is gaining ground that this is all a mistake. We are told that it is not necessary to take any trouble whatsoever about ventilating sewers; that such efforts do more harm than good; that ventilators do not remove but create a nuisance; that instead of purifying the sewers we contaminate the air which we draw into them for purposes of ventilation, and that then this befouled atmosphere is discharged through grids into the street and under the feet of the pedestrian. Better by far close up these grids and let sleeping dogs lie; that is, avoid disturbing the mephitic emanations that may be forming in the sewers below. Finally, and to clinch these arguments, the favourable vital statistics of Bristol are given, and we are told that in this town there is no ventilation of any kind for the sewers. All this seems somewhat startling and disturbs the generally accepted principle that sewers should, on the contrary, be very carefully and thoroughly ventilated. At first sight, also, the assertion sounds as if some persons believed in what is obviously a physical impossibility. It stands to reason that an air-tight sewer is an impossibility. If the air could not get out of the sewer it would be so compressed by an inrush of storm-water that the sewer would explode. Still the statement is repeated over and over again that the sewers of Bristol are not ventilated. This is a mischievous assertion, for it provides supine local authorities with an excuse for neglecting altogether a very important part of their duties. Complaints may be made that the ventilation of the sewers in some town or part of a town is very unsatisfactory and occasions many inconveniences. Thereupon the local authority, instead of attempting to find a remedy, replies that it is thinking of imitating the example of Bristol and of closing all the ventilators, so as to solve the problem by doing away altogether with any sort of ventilation. It will easily be seen to what dangerous lengths such a policy of "masterly inactivity" may be carried.

In these circumstances it seemed necessary to ascertain on the spot what really had been done at Bristol. The result of these investigations is just what it was natural to anticipate—namely, that there is no brief or simple answer to a very intricate problem that varies in its practical application as the aspects of nature vary. It is true that at Bristol there are no grids ventilating the sewers on the street levels; it is even true that there are no ventilating shafts purposely constructed to discharge sewer air at some higher altitude than the road surface: but it is not true that there is no ventilation for the sewers. Not only is this assertion false, but it is beyond human power to render it true. A sewer must be ventilated more or less or it must burst. All that can be said is that it is the "less" rather than the "more" which obtains at Bristol, and the only question that can be discussed is whether this is an advantage or not. Then, again, if it is an advantage, would the same principle be equally beneficial if applied to other towns? These are all questions which are greatly modified by local conditions, and what is possible at Bristol may be utterly impracticable elsewhere.

First it must be borne in mind that some of the sewers of Bristol are nearly 100 years old. This the late Mr. Frederick Ashmead, engineer of the city, explained in 1877 to the Association of Sanitary Engineers. Formerly the ships that came up to Bristol with the high tide were left on the mud as the tide receded. The ships built for the Bristol merchants were so constructed as to stand this, but it damaged other vessels. The latter consequently avoided the port and Bristol merchants thus secured a sort of monopoly for their ships. From the health point of view the receding tide was an advantage as it helped to carry away what little sewage then reached the river. It was not till 1803 that, the Bristol Dock Company having been formed, a new water channel was cut, the rivers Avon and Frome were dammed up, and locks and basins were constructed so that water might be retained when the tide went out and the ships thus be kept afloat. This great work was completed in 1809. But soon complaints began to arise, as bad odours came from the stagnant water of the floating docks or harbour. These continued till 1825 and by that time sewers of the length of five and a half miles emptied themselves into the floating harbour, where there was no tide to clear the sewage away. To abate this nuisance what is known as Mylne's Culvert was constructed to conduct the sewage directly into the Avon. This sewer measures five feet six inches by five feet and has a gradient of 1 in 247. Then another sewer was built which falls into the river above the Tottenham Lock and measures three feet six inches by three feet and has a gradient of 1 in 300. These with older sewers made in all 41 miles of sewers existing at the time of the adoption of the Public Health Act. In 1851 the outlying districts joined to form with the old town the new city and county of Bristol, which had a special committee to deal with health questions. It was then decided that the different districts should be drained separately. In describing all this Mr. Ashmead said, for instance, that the Bedminster district got a sewer four and a quarter by four feet which, going down 40 feet to Nelson-terrace, there fell into another sewer six feet by five feet six inches which he describes as "a containing sewer reservoir" with a gradient of only 1 in 300. Then he went on to say that "the sizes of the several sewers in each district are calculated to carry five cubic feet or 31·5 gallons per head per diem for a variable population of from 30,000 to 50,000 per square mile according to the district and a quarter of an inch of rainfall in 24 hours, storm-overflows being formed in all cases where possible to provide for a greater rainfall." The several districts have for the most part separate outlets into the tidal river. The sewers were not provided with ventilators, but in the high level district of Clifton at low water when the mouth of the sewers was exposed the draught blew up into the houses and an air-valve had to be inserted. Thus, in this case, instead of there being no ventilation, the ventilation was so extremely violent that it had to be checked. The whole of the other sewers—by which presumedly is meant the main collectors—being, Mr. Ashmead stated, low-level sewers, have double tidal valves fixed at their outlets. These valves are self-acting, of cast iron, and oval or circular in form. They are hung with chains and bedded in indiarubber. At low tide they retain the sewage which, gradually filling the up sewer, forces the air back till such time as the accumulated sewage can be let out into the river. This constitutes a sort of artificial breathing or pumping, and as it occurs twice in the 24 hours it naturally helps to ventilate the sewers. At the time when this paper was read there were five separate sewer outfalls into the tidal river. The cost of building the sewers amounted to £168,071 and the population of Bristol was 202 950. The average death-rate before these works were carried out was 28 per 1000 of the population and for the year ending January, 1877, it was 22·7 per 1000. In answer to questions Mr. Ashmead professed the greatest ignorance as to the condition of the atmosphere within the sewers. They were all made of bricks—no main sewers were made of pipes—and they were never flushed. "We never flush them," he declared, "and have never had occasion to spend a penny for water for flushing purposes in any shape or form, the flow of water is always sufficient." On inquiry I found that this assertion still applied to-day and that no efforts were made to flush the main sewers. Nor had anything been done to ascertain the rate at which the air travelled in the sewers. In some sewers in the old part of the city what is called sewer gas had been noticed; and in those cases two manholes instead of one were opened so as to set up a thorough draught before allowing anyone to enter.

From all this it will be seen that several of the main sewers of Bristol are low-level sewers built half a century or more ago and at a time when the necessity of ventilation had not been recognised. Then the town began to extend rapidly and outlying districts were annexed to the old historical borough. Such extension necessitated the going uphill. This is a great fundamental fact. Old Bristol lies at the bottom of a basin. There are hills, not on one side, but all round, and these hills rise to a height of 350 feet and are all covered with habitations. Therefore it is not a mixed but a uniform problem. From all points of the compass the topography is the same—namely, the sides of the basin rising up from the flat centre. Consequently one and the same system serves equally well for all districts; this

cannot be said of most other towns. In these circumstances it was to be expected that the sewers coming down from the high levels would act as ventilating shafts for the main and large sewers that serve as collectors and are situated on the low levels. But this, we are told, is prevented by air-valves which open to let the sewage out but close against a pressure of air travelling upwards. Apart from this protection the sewers coming from the high levels are many of them of recent and excellent construction. Then they have such precipitous falls that they are not only self-cleansing but the sewage travels along them so rapidly that it has not time to decompose and to create a nuisance. Mr. T. H. Yabbican, M.I.C.E., the present city engineer of Bristol, reporting on the subject in October, 1898, said :—

> Where sewers are properly constructed with rapid falls the sewage is not retained sufficiently long for decomposition to set in and no sewer-gas is evolved. I have made experiments to ascertain the rate of flow in the Clifton high-level main sewer which has a gradient of 1 in 300 and find that with the dry weather flow the speed is one mile in an hour. Most of the branch sewers have much steeper gradients, so that any sewage discharged from houses in Clifton or Redland probably finds its way into the tidal river within two hours. When any rainfall occurs the speed of the flow in the sewer is very greatly increased. The velocity of a sewer three feet in diameter in a gradient of 1 in 300 running full is 355 feet per minute.

Consequently the sewers that run down the many hills on which Bristol stands are not likely to occasion much nuisance, and therefore, even if not efficiently ventilated, would not cause much inconvenience. But it is a gross error to maintain that the sewers are not ventilated. Mr. W. J. Steele, assistant engineer of the city, read a paper before the Bristol Association of Engineers on Dec. 14th, 1901, and he then said :—

> It is not claimed that air cannot enter or emerge from the sewers of Bristol, because it is practically impossible for any sewerage system to be constructed so that this condition can be obtained, nor is it desirable that it should, because every rain storm would possibly cause the manhole covers to be blown from their seatings, but it has not yet been proved that any special means for ventilating the sewers is necessary.

Here, then, we have an admission, an official admission, that there is, and that there must be, some sort of ventilation ; but Dr. D. S. Davies, medical officer of health of Bristol, speaking at the Congress of the Sanitary Institute held at Southampton in 1899, gave some indication as to how this ventilation takes place. He said :—

> If any shafts at all are required an occasional upcast here and there would suffice to equalise pressure caused by unequal flow, admission of storm water, &c. ; but even these appear to be superfluous, for should the sewer-air pressure increase so as to pass the water seal of the intercepting trap it finds immediate vent up the open soil-pipe ventilator and cannot enter the house. And where the street gullies admit storm water to the sewers, as in Bristol, a further safety-valve through the water seal of these gullies is afforded, with this advantage, that the escaping air is washed as it bubbles through and causes no offence on its escape into the street air. The only time, indeed, when in Bristol we get smells or complaints from the sewers is after prolonged drought when the gullies dry, and our system approximates to that of a ventilated town ; this is easily set right by sending a water-cart round to fill up the gullies.

In regard to the latter point the fact that a gully when dry gives off bad odours would imply either that the gully itself was in a dirty condition or that the sewer below was not self-cleansing and that the gully was doing more than its share of ventilation, but it does not mean that ventilation is an evil or that it would cause nuisance if properly managed The really important point is the admission that the drainage of Bristol is based on a widespread dispersion of safety valves. Many years ago, I believe, at Leeds, midden privies were abolished and the houses of one of the best high-level districts were connected with the sewers. The result was an outbreak of typhoid fever in this district. Sir William Rawlinson was called in to advise. He found that the street gullies, like those in use at Bristol to-day, were all trapped. He forthwith ordered the water seals to be broken and thus at once converted the gullies into sewer ventilators. Thereupon the typhoid fever epidemic ceased. The position was not unlike that at Bristol. There was a low-lying and comparatively unhealthy district with big main sewers that had slight gradients. A high-level healthy district was invaded by typhoid fever when it was connected by unventilated sewers with the main sewers below. As a matter of fact, it is incorrect in both cases to say that the sewers were not ventilated—it is only correct to say that no special means of ventilation were provided. In both cases the sewers, as admitted by Dr. Davies in regard to Bristol, were ventilated through the syphon water-traps. This had a disastrous result at Leeds because in those days the forcing of the water seal meant the admission of sewer-air into the houses. The safety of Bristol to-day is based on the fact that when the sewer air has forced its way through the water trap it does not enter into the house. It is the interceptor trap, situated at the foot of the house drain and near the point of its junction with the sewer, that is forced. The sewer air then enters the domestic drain, but great care is taken to continue the soil-pipe up to, and above, the roof of the house. Of course, it is easier for the sewer air to escape over the roof of the houses than to force its way through a second series of water traps that are under the sinks or the pans of the closets. But for this modern method of continuing the soil-pipe to the roof of the houses the result of not ventilating the sewers into the streets would probably have been as disastrous at Bristol as it has been elsewhere. As matters now stand we find a somewhat restricted system of sewer ventilation through the house drains ; for such ventilation, instead of being constant, only occurs when there is extra pressure in the sewers. But by the side of this restricted ventilation there is also some constant ventilation, especially where it is most needed, namely, in the larger sewers, the older sewers, and those that have but slight gradients and are therefore not self-cleansing. These are for the most part on the low level, they approach the water-courses, and this is where the storm overflows are situated. Naturally, every storm overflow, though not built for that purpose, is a sewer ventilator. Even if it is provided with a flap valve this must open to let out the overflow ; that is to say, it opens just at the moment when the air within the sewer is compressed by the inrush of rain water and there is most need of apertures to act as ventilators and to relieve this pressure. Then these old sewers leak in several places, and each leak serves as a ventilator, not to mention numerous rat holes. Finally—and this applies to all parts of the town—there are a certain number of houses that have no interceptor trap whatsoever. Their soil-pipes plunge directly into the sewers and allow the sewer air to travel up to the roof of the houses without let or hindrance. This is especially the case with all old houses unless the drains have been purposely dug up so as to introduce interceptors, and it is precisely where the older houses exist that the need of sewer ventilation is likely to be the most urgent. Thus at Bristol there prevails a system of ventilating the sewers through the house drains and on to the roof of the houses. Where this is done openly, as for instance at Leicester, many of the householders resist ; at Bristol it is done "unconsciously." This, indeed, is the word that on several occasions has been used to describe the method in vogue at Bristol, and it is claimed that the "unconscious" system of ventilation gives results that are as good as, and even better than, those obtained by the deliberate or "conscious" provision of openings for the purpose of ventilation.

A statement to which great publicity has been given was made by the medical officer of health comparing Bristol with Brighton and Croydon. The average general death-rate for the 10 years from 1887 to 1896 was 20·6 per 1000 for the 33 great towns, 19·9 for London, 18·9 for Bristol including Clifton, 17·7 for Brighton, 14·5 for Croydon, and 13·8, according to local returns, for the district of Clifton. The deaths due to fever were 11 per 100,000 for each of the three towns, but the deaths due to diphtheria were 13 for Bristol, 18 for Brighton, and 32 for Croydon ; and to diarrhœa 49 for Bristol, 66 for Brighton, and 46 for Croydon. This was the annual average during the ten years per 100,000. The fever mortality, therefore, was exactly the same whether the sewers were purposely ventilated as at Brighton and Croydon, or only accidentally ventilated as at Bristol, but there was not so high a mortality from diphtheria and diarrhœa at Bristol. These figures are given in a report on the non-ventilation of Bristol sewers presented to the city council in November, 1898, and there it is also stated that the average annual zymotic death-rate for 10 years 1881 to 1890 was 2·16 per 1000 at Brighton and 2·12 per 1000 at Bristol, and that that for diphtheria, diarrhœa, and fever combined was 0·98 at Brighton and 0·77 at Bristol. Therefore the report concludes that :—

> There is no reason to expect any improvement in the present satisfactory returns as to the sickness and mortality. There is no reasonable hope of improvement but rather the reverse.

This report urges that there is no risk of sewer air entering houses as it would be carried to the roof of the houses on forcing the interceptor. Thus we find here another admission that this probably occurs, and, indeed, there is no

attempt to conceal the fact that the interceptor traps are looked upon as safety valves; that is to say, they are not traps to prevent the passage of sewer air, but on the contrary valves to allow the air to escape when there is a pressure strong enough. Thus the ventilation is not prevented; it accidentally occurs in many places and where there is extra pressure it can take place everywhere, for every soil-pipe can then become a sewer ventilator. But supposing that other ventilators than the house soil-pipes were provided—ventilators that would enable a constant current of air to pass through the sewers, that would prevent the possibility of any pressure capable of forcing the water seal of the house interceptors—what would such an undertaking imply? It has been calculated that some thousand or more such ventilators would be needed and this might cost, it is stated, some £40,000. Why, it is urged, spend this large sum to imitate other towns which, though they thus ventilate their sewers, obtain inferior rather than better results in regard to their vital statistics. It is true that during the last two or three years there has been some increase in the prevalence of typhoid fever and diphtheria in Bristol, still it must be acknowledged that so far as statistics are concerned they supply no evidence to show that the "unconscious" ventilation prevalent at Bristol gives worse results than the "conscious" ventilation applied in other towns. The example of Bristol seems to indicate that the ventilation of sewers has been so badly managed in some towns that Bristol, without any management at all and trusting simply to the chapter of accidents, has obtained results which are quite as good if not better. This does not mean that therefore every town authority may as well shut up its ventilating grids and likewise trust to a chapter of accidents. Every town has not got a tidal river to occasion the pumping of air in and out of the sewers twice a day. Nor is every town built at the bottom and up the sides of a basin as is Bristol. Every town has not the same proportion of newly built self-cleansing sewers running down precipitous hills. Every town has not got the same proportion of soil-pipes prolonged over the roof of the houses ready to act as sewer ventilators as in Bristol; and, above all, every town is not constantly swept and purified by the pure sea winds from the Bristol Channel. Therefore it would be very dangerous and unwise to conclude that what obtains at Bristol can be indiscriminately applied elsewhere.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Exemptions from Vaccination.

THERE are considerable differences in the reasons given by magistrates for exemption or non-exemption from vaccination. Recently Mr. Makinson, the Salford stipendiary, is reported to have "very unwillingly" granted a vaccination exemption certificate to a young man who thought vaccination detrimental to health and said that a relative was short-sighted as a result of it. The magistrate spoke of the folly and danger of neglecting it but said—"It would not matter if we could put such cranks in some isolated place, but we cannot. ..... However, you appear to have some conscientious objections and you can have the certificate." Here the existence of a general conscientious objection is held to be a sufficient reason for granting exemption. In refusing two applications for exemption certificates at Altrincham in September last Judge Bradbury, who presided on the bench, said that his view of the law was "that an applicant must satisfy two magistrates that his own child was liable to suffer from vaccination and he must bring evidence to that effect. A general objection to vaccination was no good." It would be a boon to the country if all magistrates took Judge Bradbury's view. In the vaccination returns issued recently it is stated that in 1901 in Lancashire alone there were 5270 exemptions granted and 97,556 vaccination certificates, the births being 126,638. In the meantime small-pox spreads apace.

The Oyster Scare.

Manchester has so far happily escaped any ill-effects as regards health from sewage-carrying oysters, but the "barrel business" at Christmas is said to have been 25 per cent. less than usual. Many, probably most, of the oysters used in Manchester are American and deep-sea oysters, which are, it is believed, safe from sewage pollution which has chiefly prevailed on the south coast. The "Old Shambles" in Manchester are very much given up to oyster bars and shops and the consumption there is said to have been as large as ever and most people have not troubled themselves about the scare. But the crowd may know that the oysters do not come from the south coast. Alderman Stanley, "whose firm virtually supplies all Manchester," thinks that the Government ought to insist on the fisheries being registered and that there should be a Minister for Fisheries. Another large firm considers that the scare has injured the "native" and barrel trade nearly 50 per cent., but that it will ultimately benefit trade, "for it was right that more care and discretion should be taken in choosing oyster beds."

Small-pox in Salford.

At the meeting of the Salford council on Jan. 7th Mr. Pinder asked how it was that ten cases of small-pox had occurred at the Hope Hospital, which is under the control of the Poor-law guardians, "seeing that small-pox was a disease against the attack of which every person could make himself secure by vaccination and revaccination." The answer of the chairman of the health committee was that revaccination did not take place in the cases referred to until after exposure to the disease, and he "regretted that people who knew nothing about the disease should set themselves up as authorities on it as against medical men." This, no doubt, is a very proper sentiment, but it implied that blame attached to the guardians; indeed, it was further stated that one of the guardians said it was a shame that "poor old daddies" should be vaccinated and yet the first case was that of a man, 72 years of age. A day or two after, on Jan. 9th, a meeting of the Salford guardians took place and a motion was of course proposed deprecating the tone of the discussion at the council meeting and condemning the action of the chairman of the health committee. This was carried, but about half of the guardians did not vote. Indeed, the lady guardian who proposed the motion, though saying that the board had done all in its power to prevent small-pox from entering the hospital or spreading in it, acknowledged that some laxity had occurred. The moral of it all seems to be that the various authorities should work cordially together, that too much vigilance cannot be exercised, and that even "poor old daddies" aged 70 years and over should have the safeguard of revaccination. However, Salford is to be congratulated on the fact that the chairman of the health committee was able to announce that the death-rate in the borough for 1902 was only 19 per 1000, which is a "record" for Salford. Indeed, in regard to small-pox it has fared better than many of its Lancashire neighbours, as there have been only about 20 cases.

Joint Hospital for Cheshire.

At the meeting of the Northwich rural, Northwich, Winsford, and Middlewich urban joint hospital committee, held on Jan. 9th, a communication was read from the Cheshire county council stating that the Local Government Board had sanctioned the borrowing of £2000 for the purchase by the committee of the site for an isolation hospital on the understanding that neither the site nor any building upon it shall be used for small-pox.

Baguley Sanatorium.

There are now 28 fever patients in the Baguley Sanatorium belonging to the Withington urban district council. It was opened a few weeks ago. Patients are received from the urban districts of Withington, Moss Side, and Levenshulme, and from the districts within the authority of the Bucklow joint hospital board. So far the arrangement seems to work well. The patients are brought from their homes in charge of hospital nurses in a large brougham ambulance and when discharged will be taken back in a smaller brougham. At Newall Green, about a mile from the sanatorium, corrugated iron buildings have been erected for small-pox patients from Withington and Moss Side, which are nearly ready for occupation, should the necessity arise.

Jan. 13th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Professor Adolf Lorenz in Liverpool and Birkenhead: Interesting Demonstrations.

ON Jan. 10th Professor Adolf Lorenz of Vienna visited the Royal Southern Hospital, Liverpool, for the purpose of

demonstrating some of his methods of treatment. A large audience of medical men filled the clinical theatre. 17 cases of congenital dislocation of the hip had been collected by Mr. Robert Jones, one of the surgeons to the hospital, together with seven cases of club-foot and some cases of hip disease with marked deformity. Professor Lorenz first demonstrated his bloodless method of reduction in a case of unilateral dislocation of the hip in a girl, aged eight years, the age limit beyond which cases are generally unfavourable. After thoroughly stretching and tearing the tense adductors and extensors and rendering the parts about the hip "flail," he reduced the dislocation by causing the upper end of the femur to rotate around the lower margin of the acetabulum and to enter the socket. By forced manipulation the socket was made more like an ordinary acetabulum, and he was able to demonstrate clearly the slipping in and out of the bone. The thigh was then incased in plaster-of-Paris by Dr. Müller in the most finished and perfect manner, the position being that of abduction, rotation, and extension at a right angle to the body, so as to jam the head of the bone against the anterior part of the acetabulum. Dr. Lorenz next proceeded to replace the dislocated heads of the femur in a case of double congenital dislocation in a child, aged three years, this being a suitable age for his method; the reduction only occupied a few minutes, and the patient was fixed in plaster-of-Paris in the same manner as in the former case. A demonstration was next given of his modelling *redressement* of talipes equino-varus, the foot being afterwards placed in plaster-of-Paris. The apparatus which he uses for correcting "short leg" in hip disease was next explained. The audience, which consisted of well-known surgeons from London, Birmingham, Liverpool, Wales, &c., was a most enthusiastic one, and Professor Lorenz's demonstrations were received with great applause, everyone agreeing that in lucidity and completeness they could not be surpassed. On Jan. 11th Professor Lorenz paid a visit, among other places near Birkenhead, to Heswall, for the purpose of viewing the site for the hospital for chronic diseases of children, in which he took a great interest, and said he hoped that before long Austria would follow the example of France, Germany, and England by founding similar institutions. He also expressed himself pleased with the arrangements in the local hospital.

Liverpool Medical Institution.

At the annual meeting of the Liverpool Medical Institution held on Jan. 8th the following list of office-bearers, members of council, and committees was adopted:—President: Mr. Rushton Parker. Vice-Presidents: Dr. J. E. Gemmell, Dr. W. Permewan, Mr. H. Briggs, and Dr. G. W. Steeves. Honorary treasurer: Mr. T. H. Bickerton. Honorary general secretary: Dr. J. R. Logan. Honorary secretary to ordinary meetings: Dr. J. Hill Abram. Honorary librarian: Dr. F. H. Barendt. Council: Mr. E. A. Browne, Dr. W. Murray Cairns, Mr. D. Douglas-Crawford, Dr. J. E. Nevins, Dr. W. B. Warrington, Mr. F. C. Larkin, Mr. W. J. R. Dunn, Mr. F. T. Paul, Dr. J. Pinkerton, Dr. A. Fisher, Mr. C. T. Street, and Dr. A. S. F. Grünbaum. Auditors: Mr. Douglas-Crawford and Mr. G. Westby. Pathological and Microscopical Committee: Professor R. W. Boyce, Dr. R. J. M. Buchanan, Mr. Douglas-Crawford, Dr. R. J. Ewart, Dr. E. E. Glynn, Dr. Grünbaum, Dr. J. Hay, Mr. R. W. Monsarrat, Professor C. S. Sherrington, and Dr. Warrington. Journal Committee: Dr. Abram, Mr. Monsarrat, Dr. Barendt, Mr. Larkin, Mr. G. P. Newbolt, Professor A. M. Paterson, Mr. W. Thelwall Thomas, Dr. A. J. Wallace, and Dr. Permewan.

Jan. 14th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Royal Infirmary.

THE annual meeting of the contributors to the Edinburgh Royal Infirmary was held on Jan. 5th in the city chambers. In the absence of the Lord Provost the chair was taken by Lord Pearson. The annual report stated that 9961 in-patients had received treatment during the year as against 9552 in the previous year. The average daily number of patients was 725 as against 701; the average daily number of children under treatment was 62 as against 61; the average time each patient was under treatment was 26·6 days as against 26·8 days; and the largest number of patients on any one date was 770 against 759 and the lowest number 601 against 591. Of the cases admitted 4878 came from Edinburgh, 553 from Leith, and 3914 from the country. The percentage of deaths to cases treated was 8·3 as against 7·6 last year. This increase was almost entirely due to the fact that 218 deaths—an unusually large number—had taken place within 48 hours of the patients' admission, occurring for the most part in cases of severe injury or in cases of a hopeless nature. The out-patients during the year had numbered 29,765. The ordinary income for the year amounted to £32,621 6*s.* 4*d.* as compared with £33,522 14*s.* 8*d.* in the previous year, a decrease of £901 8*s.* 4*d.* Voluntary contributions showed a slight net increase as well as the contributions from churches and donations and legacies under £100. The revenue from interest, dividends, &c., showed a decrease of £892 6*s.* 8*d.* The receipts from students' fees and income-tax recovered showed increases of £194 14*s.* and £190 7*s.* 1*d.* respectively. The ordinary expenditure amounted to £47,193 11*s.* 1*d.* or £2851 3*s.* 2*d.* less than in the previous year. The principal increases in expenditure had been in the matter of lights, salaries, and miscellaneous expenses, £106, £321, and £101 respectively. The most notable reductions had been £307 in articles of maintenance, £89 in medical expenditure, £1822 in coals, £452 in outlay on buildings, and £495 in furnishing and repairs. There had been a reduction of £1 2*s.* 8½*d.* in maintenance and 6*s.* 9½*d.* in medical expenditure for each occupied bed. The entire ordinary expenditure during the year, including the out-patient department, had been £65 1*s.* 10½*d.* per occupied bed, a decrease of £5 19*s.* 10½*d.* per bed on the previous year. During the year legacies and donations of £100 and upwards amounted to £21,007 7*s.* The capital expenditure had again been heavy, amounting to £21,248 3*s.* 1*d.* The leading items of this were £13,618 7*s.* 4*d.* from the extension fund for the new pavilions, £2558 19*s.* 6*d.* from the general fund for drainage reconstruction works, and £3602 11*s.* 4*d.* for the overhauling and renewing of the heating system. The total free income for the general fund fell short of the total expenditure under that account by £10,451 10*s.* 5*d.* and the managers had to meet that deficiency by drawing on the accumulated surplus from the revenue of former years. The average number of nurses and probationers during the year was 199, being the same as in the preceding year. The number of applications for admission to the nursing staff was 656 as against 627 in the previous year. Blair House continued to prove of increasing value as a health resort and home of rest for the nurses. It was expected that the new ear and throat pavilion and the ophthalmological pavilion would be ready for furnishing in January and March respectively. The total number of patients admitted to the Corstorphine convalescent home had been 1237, a decrease of 21 on the numbers for the previous year. The daily average in the convalescent home had been 63·2 as compared with 64·4 last year. Of the total number 865 had enjoyed a full three weeks' residence in the home. The managers regretted to state that the total income of the convalescent home had again failed to meet the outlays, the deficit this year being £1047 8*s.* 8*d.* They strongly press the claims of the convalescent home as worthy of a much larger share of support from the public. The managers recorded their grateful appreciation of the unwearied services of the medical and surgical staff and of the scientific skill and professional ability displayed by them. In conclusion, while gratefully acknowledging the response made by the people of Scotland to the claims of the infirmary on their liberality, the managers emphasised the fact that the ordinary expenditure was far in excess of the ordinary income and that this condition became each year more serious. If it were not for occasional contributions and legacies of considerable magnitude the infirmary might be placed in a state of financial embarrassment. They earnestly appealed for increased financial support so that the ordinary income might be sufficient to meet the ordinary expenditure. The chairman, in moving the adoption of the report, drew attention especially to the reduction in the ordinary expenditure and emphasised the fact that though the closest attention was paid to economy the greatest care was taken that nothing should be done which would in any way interfere with the efficiency of the work. The motion for the adoption of the report was then unanimously agreed to and it was remitted to a committee of contributors to consider and to report upon to a future meeting.

Resignation of Sir W. Muir, Principal of the University of Edinburgh.

At a meeting of the Senatus Academicus of the University of Edinburgh which was held on Jan. 10th the following minute was adopted:—

The Senatus having been apprised of Sir William Muir's resignation of the principalship of the University and of its acceptance by the university court, resolved to give permanent expression to their deep sense of respect and affection for one who has so long presided over them and to the great regret with which they bid him farewell. The Senatus were proud to receive Sir William Muir 18 years ago, after he had passed through a distinguished administrative career in India and had attained a high reputation as an Oriental scholar and historian, and they now desire to record that during his tenure of office, by his unfailing kindness and nobility of heart, he has greatly endeared himself to all connected with the university, and that by his courtesy in intercourse and by the exercise of a generous hospitality he has maintained and promoted relations of amity and friendship between the University and all sections of society. The Senatus recall with appreciation Sir William Muir's exemplary and assiduous discharge of the many duties of his position, his warm interest in all that concerned the welfare of the University, and the open-handed munificence which characterised his tenure of the principalship. It is the earnest desire of the members of the Senatus that he may be long spared to his many friends and that the remaining years of his life may be rich with blessings.

The Principalship of the University of Edinburgh.

The question of who is to succeed Sir William Muir as Principal of the University of Edinburgh is causing some interest and some talk. Various names have been mentioned, but the one which receives most attention is that of Sir William Turner, the present professor of anatomy in the University. Sir William Turner has been for many years a strong University personality, his scientific position is acknowledged and his election to the chairmanship of the General Medical Council may be taken as the proof of the opinion formed of him by his colleagues on an important board. It is natural, therefore, that university and medical interest should look to him as a possible and a suitable candidate. It is, however, understood that there are technical difficulties in the way. It seems that a university professor is not at liberty to retire from his chair when he likes and at the same time to claim his retiring allowance, and it is not suggested that Sir William Turner should forego the pension to which he may be entitled, to take on the duties of principal on a scale of remuneration below what his professional pension might be. This somewhat difficult point has, it is understood, to be settled by the University court, and it is expected that matters may be practically settled before the end of the current month.

Jan. 13th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal Victoria Hospital, Belfast.

AT a meeting of the construction committee held on Jan. 8th it was announced that all the subscriptions promised, with the exception of about £3000, had been paid and that the remainder (less about £500 which owing to deaths, &c., would be uncollectable) was expected to be available before the building was opened. It is hoped that the hospital will be opened by the King.

Rainfall in Ulster in 1902.

The total rainfall in Ulster for 1902 was 40·07 inches, which is below the average (41·12) for the previous 27 years. 1902 was an erratic year, the rainfall in the first six months being under the average, only 16·85 inches; in the other part of the year 23·22 inches were recorded. In the wettest part of the year—July, August, and September—13·85 inches fell.

Ulster Medical Society.

A meeting of this society was held on Jan. 8th, the President, Dr. John Campbell, being in the chair. Professor J. A. Lindsay opened a discussion upon Difficulties of the Medical Examiner in Life Assurance Work. He condemned the excessively elaborate inquiry forms adopted by some assurance companies as tending to diminish the sense of responsibility on the part of the medical examiner and by harassing him with a multitude of irrelevant details his attention was apt to be diverted from those outstanding facts upon which the eligibility of an applicant for a life assurance policy really depended. It was vexatious to be expected to inquire into the cause of death of grandparents, to record the colour of the applicant's hair and eyes, or to put such pointless questions as "What is the applicant's temperament?" "Is there any danger of lack of acclimation?" In the long run the companies must trust their medical examiner, but they might fairly require him to write down that he had inquired into the leading facts in the family and personal history, examined the principal organs of the body, and tested the urine. The examination of an applicant should be thorough and systematic but not harassing or over-elaborate, and an attitude of suspicion should be avoided. It should be remembered that an applicant was not a patient and that examination for life assurance was a different matter from making a diagnosis in a difficult case. The interpretation of the applicant's history was often a difficult matter. Wrong statements were often made by applicants, not usually, perhaps, from any conscious attempt to deceive but rather from the unconscious play of self-interest. Deaths from phthisis were often concealed under such expressions as "died from the effects of a chill," or "as the result of a wetting," or "from hæmorrhage from the throat." Deaths from cancer and from delirium tremens were often veiled under various periphrases. Long life or short life as a family trait was a fact of the first importance. Of all the factors relating to longevity none was so important as the applicant's inherited tendency. As Heine had remarked, "We can't be too careful in the choice of our parents." Several deaths in one family possessed a very different significance at different ages. In childhood one of the infective diseases was usually the cause, in adolescence tuberculosis, and at middle life premature vascular degeneration. These facts had a very different degree of value as bearing upon life prospects. A family history of phthisis was not so seriously viewed now as formerly but its importance was not to be denied. Members of consumptive stocks, however, who had passed the dangerous age (from 15 to 30 years), who had well-developed chests, and who were in vigorous health might be safely accepted with a moderate "load," which might be remitted after the age of 45 years, if all was satisfactory. A history of pleurisy was important as many pleurisies were tuberculous in origin, but an acute pleurisy, fully recovered from and leaving neither local signs nor constitutional impairment, did not call for any addition. A history of an attack of hæmoptysis without signs or symptoms warranted a moderate "load" which might be remitted after the age of 45 years. A history of syphilis called for a careful scrutiny of all the organs, especially the arteries and the nervous system. If the applicant had received adequate treatment and had been free from all symptoms for four or five years a small addition would meet the case. The possibility of some of the late effects of syphilis (e.g., locomotor ataxia) should be borne in mind. The applicant's occupation was very important. The speaker dealt at length with the mortality and life prospects of the various trades and professions. Obesity and underweight should receive careful attention. Obese persons bore acute diseases badly; they were sometimes, though by no means always, free livers, and were prone to gout. Spare persons were often good lives but tuberculosis, diabetes, and other causes of wasting should be borne in mind. An unduly frequent pulse, if not due to obvious nervousness, should cause watchfulness. It might be the only sign of concealed alcoholism. Tremor of the tongue might have a similar significance. Many applicants were untrustworthy on the subject of alcohol. In a doubtful case they might get a valuable hint from (1) undue frequency of the pulse; (2) tremor of the tongue; and (3) dyspepsia, especially morning sickness. The relation of piles, hernia, varicose veins, atheromatous arteries, emphysema, diabetes, asthma, albuminuria, and heart disease to life assurance was fully dealt with. A small quantity of sugar in the urine of an applicant over 40 years of age, without thirst, wasting or other proof of diabetes, should lead to the postponement, not the rejection, of the case. Many of these patients got well. Albuminuria was, as a general rule, a bar to acceptance. The cases of so-called "cyclical" or "functional" albuminuria were very difficult. Such cases could not be safely taken at ordinary rates but much depended on the applicant's age. He was inclined to be suspicious of these cases and to hold that a substantial proportion of them ultimately developed organic renal disease. The question of heart disease in its relation to life assurance raised many interesting questions. Aortic cases and cases of mitral stenosis were probably uninsurable. Mitral regurgitation was the difficult point. Many of these cases went on indefinitely. If mitral regurgitation could be shown to have existed for four or five years without giving rise to symptoms or producing

recognisable hypertrophy, or dilatation, if the arteries were sound and the pulse was normal, if the applicant's general health was good, his habits were regular, and his occupation was suitable, the assurance companies would do well to consider the propriety of admitting such cases to the advantages of a limited or "tontine" policy. In the discussion which followed Dr. Calwell, Dr. W. B. McQuitty, Dr. Nelson, and Sir William Whitla took part.

Irish Education.

The Royal Commission on University Education has concluded its work and the report, it is said, will be ready next month. On Jan. 12th Lord Londonderry (Minister of Education) and Mr. G. Wyndham (Chief Secretary for Ireland) had a private conference in Belfast with members of the joint committee of the Chamber of Commerce and the technical committee of the Belfast Corporation and representatives from Queen's College in reference to the scheme for the establishment of a system of commercial education in connexion with Queen's College. It is hoped that this will be carried through and that the Government will make a special financial grant.

Jan. 14th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A Medical Information Bureau.

IN my letter which appeared in THE LANCET of Jan. 10th (p. 137) I mentioned the new bureau of medical information which has recently been started in Paris. The bureau is under the municipal council of Paris and will prove of great value to foreign or provincial medical practitioners who come to pursue their medical studies in Paris. The former are often quite at sea on arriving in Paris, especially if they do not know French. Even if they have a letter of introduction to some eminent Parisian practitioner—who for the very reason that he is eminent is correspondingly busy and cannot act as a cicerone—they have infinite trouble in getting the information which they require as to what course of lectures to attend, what medical men eminent in particular lines to see, what hospitals to go to, and the days and hours at which certain lectures and demonstrations take place, so that they waste their time unnecessarily. Besides the purely professional establishments, such as hospitals, there are plenty of organisations interesting to medical men about which even Parisians themselves know little or nothing, such as infirmaries, convalescent homes, the water-supply department, the sewage department, crematoriums, prison infirmaries, the municipal laboratory for identifying adulterations, the Morgue, and various matters connected with forensic medicine. Dr. Blondel, the secretary-general of the International Medical Press Association, who made an expedition throughout Europe for the purpose of study in 1900, was greatly struck with the accounts which he received from foreign medical men of the difficulties which they encountered when they went to Paris. The idea of the information bureau came into his head and he accordingly urged M. Brouardel, who was then Dean of the Faculty of Medicine, to set aside a small room and one attendant in the buildings of the Faculty so as to make a beginning with this bureau. This seemed a simple plan, only unfortunately the Faculty had no attendant whom they could spare and no funds wherewith to pay a new man for the post. Dr. Blondel then approached the municipal council with a view to a grant. M. Brouardel, however, preferred that the money should be procured from the Government and he obtained from M. Liard a promise of a grant of 1000 francs, to which sum the Faculty promised to add 500 francs. Neither the 1000 francs nor the 500 francs were ever paid in, and so, after waiting for six months, Dr. Blondel again approached M. Brouardel. He, however, said that as he was just on the point of resigning he did not wish to undertake any new scheme but would leave the matter to his successor to initiate. Six months more went by, but when the new dean, M. Debove, was nominated Dr. Blondel laid the matter before him and met with a gratifying response. M. Debove then, not considering that he had the power to decide the question himself, called together the council of professors. M. Pozzy, to whom the question was submitted for consideration, reported in its favour, the council approved, and the dean was charged with the duty of preparing a detailed scheme. The dean in his turn introduced some modifications into the original scheme of Dr. Blondel which had been approved by M. Pozzy and the Faculty, in that he wished instead of having a special employé acquainted with foreign languages and sitting in a special room to make use of one of the attendants of the Faculty who was but little of a linguist. As for the necessary expenses they must continue to rely on the generosity of the municipal council. Finally, Dr. Blondel appealed to two municipal councillors, M. Dausset and M. Felix Roussel, who laid his petition before their council. The petition was granted and at the meeting of the council held on Dec. 31st a grant was made of 3000 francs for the creation of a bureau of medical information on condition that it should be installed in rooms in the Hôtel de Ville, the Assistance Publique, the Sorbonne, or the Faculty of Medicine, according to which appeared the most convenient situation. It is hoped that the bureau will be in working order within the next two or three months. The employés will all be able to speak other languages than their own and will be well versed in the information which they will have to give. They will also have on hand reference cards containing information kept regularly up-to-date (*fiches tenues régulièrement à jour*).[1] A list of foreign medical men residing in Paris, of whom there are some 500, will also be kept, classified according to nationalities, and among them there will be established a community of *camaraderie* so that their compatriots will always be sure of a welcome and will be able to get the most complete information.

Obituary.

Dr. Panas, formerly President of the Academy of Medicine, died on Jan. 5th. He was 71 years of age but his intellectual faculties were in no way abated. He was a Greek and was born at Cephalonia in the Ionian Islands on Jan. 30th, 1831, but when quite young he came to France to study medicine in Paris. In 1854 he was elected an *interne*, later he became assistant demonstrator in anatomy, and finally prosector. The remarkable success which attended him in the various competitive examinations drew the attention of Nélaton who took him under his wing. In 1863 Panas was nominated *agrégé* of the Faculty and soon afterwards he was elected surgeon to the hospitals. He served as surgeon to the following hospitals in succession: the Bicêtre, Lourcine, Saint Antoine, and Saint Louis. During this period of his career he was naturalised. He had already written much upon general surgery and had contributed to Dechambre's Dictionary articles on the pathology of diseases of the joints, which still remain as authoritative utterances. He then devoted his attention to ophthalmology, in which department of science he had a long and brilliant career, and his "Anatomy of the Nasal Fossæ and the Lacrymal Canals," his book on "Strabismus and Ocular Paralysis," his treatises on the "Pathological Anatomy of the Eye" and on "Inflammatory Affections of the Internal Tissues of the Eye" still rank as classics. In 1879 he was appointed to the chair of clinical ophthalmology at the Faculty of Medicine, a post which had been specially created for him. This post he resigned last year, being worn out by the painful and lingering malady to which he at length succumbed. He was a member of the Society of Surgery and held the presidential chair in 1877. He was also Officier of the Legion of Honour.

Jan. 14th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Supposed Discovery of the Germ of Rabies.

THE resemblance of hydrophobia in its clinical and anatomical characters to other infectious diseases the specific germs of which are now known is so complete that little doubt of its microbic origin has been entertained notwithstanding the failure of the many efforts which have been made to isolate the germ. Its transmissibility by inoculation, the presence of a period of incubation after the inoculation, the possibility of stamping out the disease by certain precautions, and its resemblance in many details to tetanus, have all pointed strongly to such an origin. But although many organisms have been described from time to time as holding a causal relationship with rabies no single one of

[1] "Fiches" is an untranslateable word. It means among other things something analogous to the "card catalogues" which are to be found in public libraries.—ED. L.

them has stood the test of a rigid proof. Memmo, for example, described a blastomyces in this connexion, while Bruschettini demonstrated an organism holding an intermediate position between a saccharomyces and an oidium. Others, as Pasteur, Chamberland, and Roux, ascribed the same rôle to micrococci of different sizes with cultural and staining peculiarities of various kinds. A remarkable fact in regard to many of these organisms was that they appeared when inoculated into animals to produce symptoms very similar to, if not identical with, those of rabies. It has now been claimed by Dr. Sormani, professor of hygiene in the University of Pavia, who has devoted many years of study to the subject, that he has succeeded in isolating a microbe which responds to all the tests and which he is confident is the true causal organism of the disease. The previous failures to identify this germ as the specific one Professor Sormani ascribes to its polymorphism, and he believes that certain of its forms and stages have been seen and described by other observers who, however, missed the connecting links and so failed to establish the unity which he asserts exists between them. These phases depend upon the mode of development and the cultural medium, according to which the microbe takes the forms sometimes of micrococci, sometimes of bacilli, or very rarely of blastomycetes, its colonies on the medium having a cloudy or fleecy, or at times a branching aspect. The microbe, though often to be found in microscopic preparations of the tissues, is best studied in pure cultures. Being one of the smallest of known organisms it can be seen only with the higher powers of the microscope (1200 diameters) and for its minute detailed study requires the highest magnification obtainable. If Professor Sormani's observations and inferences be confirmed his discovery will doubtless lead to the modification and simplification of the present complicated technique for inoculation against rabies. It may also point the way to the recognition of the specific cause of other diseases the causal organisms of which may have escaped observation hitherto only on account of their minute size or their polymorphism. After the many disappointments of the past, however, it is necessary to be cautious in accepting the discovery as an established fact until confirmatory observations can be made.

The Death-rate of Italy.

Statistical records of the mortality amongst the whole population of Italy have been available since 1885. They are always carefully and clearly arranged, but it is unfortunate that they are published so late that at the beginning of the year 1903 we know nothing officially of the returns of 1902 or even of those of 1901. Indeed, it is not more than two months ago since the death statistics of 1900 were published. In that year the mean general rate of mortality was 23·8 per 1000 of population, an excessive amount when compared with that of other countries (excepting Russia, Austria-Hungary, and Spain), and also excessive when contrasted with that of the previous triennium 1897-99 in Italy itself, which was only from 21 to 22 per 1000. This latter figure denoted a reduction of the death-roll of the triennium 1885-87 (when the rate was from 26 to 28 per 1000) of some 200,000 persons per annum and that thus not less than 4,000,000 persons have been saved by improved hygiene from disease and its concomitant and consequent economic loss. Professor Celli, in commenting upon these statistics, adds that he understands from official sources that the rate of mortality for 1901 shows a diminution on that of 1900, being only 21·95 per 1000. He points out that even this figure leaves an immense amount to be desired before the hygienic ideal can be said to have been reached, since in Norway and Sweden, which countries have the lowest mortality, the rate has been reduced to about 15 per 1000. Comparing the death-rates in different parts of Italy with one another it is found that all the provinces with a death-rate above the mean belong to Southern Italy and the islands, whilst the provinces with a mortality below the mean belong to Northern and Central Italy. Of the former Foggia and Potenza come out worst with a rate of 30·4 and 30 per 1000 respectively, while of the latter Pisa and Treviso come out best with a rate of 19·5 and 19·2 respectively. Of the principal towns the worst are Catanzaro and Siena with a rate of 41 and 39 respectively, whilst Sondrio and Porto Maurizio stand best with rates of 18·8 and 19·5 respectively. But in general it is found that as regards the towns the majority of those with a less mortality belong to Central or Southern Italy, whilst those with a larger mortality belong to the northern provinces. Of the larger cities Naples has a mortality of 25·8, Venice 24·9, Bologna 24·3, Genoa 23·8, Milan 22·4, Turin 22·3, and Rome 21·7 per 1000. The pre-eminence of Rome for salubrity amongst the larger Italian cities is now generally recognised in Italy itself, but deserves to be more widely known abroad where the impression still prevails that it is unhealthy. It is unfortunately still very common for patients and even ordinary visitors to Italy to be cautioned by medical men in England and America against Rome on account of its supposed unhealthiness and the danger, which is quite imaginary, of falling a victim to malarial fever there. The above statistics are a sufficient answer to the charge of general unhealthiness and as regards malarial fever the disease is practically unknown in the city and is never contracted there by the foreign visitor.

Jan. 11th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Tent Life for the Tuberculous Insane.

IT has long been recognised that pulmonary tuberculosis spreads with great rapidity among the insane. This is not due to any special predisposition on the part of those who are mentally unbalanced to contract the disease but is owing to their dirty personal habits. Therefore, in every asylum for the insane there should be ample and efficient means of isolation. Dr. A. E. Macdonald, superintendent of the Manhattan State Hospital, Ward's Island, New York City, inaugurated in 1901 a system of "tent care" for the tuberculous insane which is said to have been attended with excellent results. The tents used were large and airy, with boarded floors and fitted with every convenience. They were pitched on elevated ground and surrounded by abundant shade. Each tent contained 20 beds. During the year 81 patients were thus treated, and in that time 19 deaths occurred among them, a percentage of 23·45 out of the total number of cases treated. When, however, all the deaths which occurred in the hospital during the same period are taken into account these figures make the percentage of those succumbing to tuberculosis as low as 8·8. Ten years ago the death-rate from pulmonary tuberculosis at the Manhattan State Hospital was 17·8 per cent. of the total deaths, and one year ago 9·8 per cent. of the total deaths resulted from this disease; but under the "tent care" of these cases the percentage of 8·8 has been established, the lowest in the history of the institution. Dr. Macdonald is so satisfied with the success of the system that he has provided for an extension of it.

Overcrowding of Street and Elevated Railway Cars in New York.

Dissatisfaction with the manner in which the street car and elevated railway service of New York is managed has prevailed for a long time. At certain hours of the day when persons are going to and from their business the cars are crowded to an almost incredible extent. Men, women, and children are jammed together like sardines in a box, and it is a common sight to witness a car so full that it would be an impossibility to get another person in. The matter has been discussed for years and many remedies have been suggested to relieve the congestion. Nothing, however, has been done and at the present time the situation is more intolerable than ever. Recently some of the leading women of the city have taken the matter up and have entered a vigorous protest against a continuance of the existing state of affairs. The Merchants' Association of New York has followed suit and through its Committee on Franchises and Transportation has issued a manifesto in which an urgent appeal is made to ministers of all denominations and to all members of the medical profession to use their influence to save women from the unhealthy and demoralising effects of travelling on crowded cars. The manifesto in question declares that public decency is outraged, public morality assailed, and public health endangered by the promiscuous personal contact with others forced upon all members of this community who use street and elevated railway cars. The document ends with an appeal to the 6000 physicians of the city to further the movement against the present abuse of the system by making clear to their patients the physical harm that comes from this abuse. The majority of the lay papers of New York have entered into the fray with zest and are attacking the corporations which control

the street railway system with energy. The *Medical Record* and other New York medical journals have commented on the subject editorially and have pointed out that the excessive overcrowding permitted on all the street railways is highly prejudicial to health in every way.

Dr. Lorenz in New York.

Professor Lorenz of Vienna, who came to this country some weeks ago to operate upon a child of Philip Armour of Chicago for congenital dislocation of the hip, has made something of a triumphal progress through whatever part of the United States he has travelled. In New York he was received by the medical profession generally with the same amount of enthusiasm as elsewhere, and he demonstrated his skill at different hospitals of the city before a large audience of its foremost surgeons. At a meeting of the section of orthopædic surgery of the New York Academy of Medicine held on Dec. 19th the whole time was taken up by an address by Dr. Lorenz and by a discussion of his methods. The address was brief, merely giving a description of some of the principles of orthopædic surgery upon which Dr. Lorenz has founded his bloodless operation for reducing congenital dislocations of the hip and for dealing with club-foot and wry-neck. He also claimed that this method is to be preferred to the open method, and whenever possible far in advance of mechanical measures. In the discussion which followed, and in which the leading orthopædic surgeons of New York took part, there was displayed a remarkable unanimity of opinion as to the extraordinary skill of Dr. Lorenz as an operator and the belief was expressed that, given the necessary manipulative dexterity, his principles were correct.

Jan. 6th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Plague in Queensland.

THE bubonic plague has broken out again in Queensland, the first case being in a Chinaman at Bundaberg. The State has been declared infected so far as quarantine and plague regulations are concerned.

Ptomaine Poisoning.

Two instances of serious ptomaine poisoning have occurred recently, one in Victoria and the other in New South Wales. In the first case over 100 people at a picnic were attacked with thirst, abdominal cramps and pains, nausea, and extreme prostration. All the affected persons had partaken of sandwiches of minced ham. In the second instance nearly a dozen people at Randevick were attacked in somewhat similar fashion after eating some cooked meat purchased at a ham-and-beef shop. In the Legislative Assembly of New South Wales the Premier was asked if he would cause inquiries to be made into these cases for the protection of the public. The Premier replied that the subject was being investigated and would be considered by the Board of Health with a view to take such action as might seem necessary in the general public interest.

Concentrated Milk.

A milk company was recently convicted for selling what is known as "concentrated milk." An analysis showed that it contained boric acid and formalin in the proportion of 1 part in 10,000. Expert evidence was given that concentrated milk would not keep without the addition of preservatives. The magistrate said that if customers asked for condensed milk they expected to get it pure and not mixed with preservatives. He inflicted a fine of £2, with costs. The milk company does a large business both in Sydney and in Melbourne.

Adulterated "Raspberry Vinegar."

At the last meeting of the Board of Public Health of Victoria a report was submitted by the Government analyst on his examination of 44 samples of so-called "pure raspberry vinegar." Only one was found to be free from poisonous adulteration. The principal ingredients were coal-tar dyes, chemical preservatives, salicylic acid, saccharin, dulcin, and cochineal. The Board simply said "that it was desirable that the Government should take steps to lessen the use of such adulteration."

Hospital Affairs.

The finances of the various Melbourne hospitals have been seriously disturbed by the reduction of the Government grant and a meeting of representatives of the institutions concerned was held recently to consider the position. It was pointed out that the reduction came with great harshness at the present time, when the institutions could not pay their way even with the unreduced grant. It was resolved—

That a deputation be appointed to wait upon the Treasurer to point out to the Government the difficulty of retrenching to the extent proposed and to discuss the best method of obtaining a revenue from amusements and other sources for the purposes of the charities.

—At the Melbourne Hospital the deficiency in the finances is estimated at £6000 for the year and the committee says that it is impossible to reduce expenditure. The question of imposing a special charity tax is being seriously considered as the only way out of the difficulty. At the last meeting of the committee of the Melbourne Hospital a letter was read from the Faculty of Medicine offering to advise the committee prior to any appointment by the committee of new members of the honorary medical staff. It was resolved to reply, thanking the faculty for the offer and stating that should any occasion for a conference arise the faculty would be advised of it.—The board of management of the Hospital for Sick Children, Sydney, has leased from the committee of the Carrington Convalescent Home a cottage for the reception of children, to be under the sole control of the authorities of the Children's Hospital. Two wards, each containing seven cots, will be fitted up, one for girls and the other for boys. This will relieve the hospital of many chronic cases where the patients are yet not well enough to be taken into the regular convalescent homes. The new buildings for the out-patient department of the Children's Hospital in Valentine-street will soon be completed.

Obituary.

Dr. Alexander K. Morson, a well-known practitioner of North Sydney, died at his residence, Kirrivilli Point, on Nov. 15th. He received his medical education at Edinburgh, where he took the diploma of Licentiate of the Royal Colleges of Physicians and Surgeons in 1863 and graduated as M.D. the following year. He practised for many years at West Maitland, but had latterly retired from active work, though he was greatly interested in benevolent institutions, and was for a long time a member of the committee and trustee of the North Shore Hospital.

Dec. 1st, 1902.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At the Primary Examination the following candidates passed in the subjects indicated :—

PART I.

Biology.—T. Bickers, Leeds; and M. Rathbone, Royal Free Hospital.
Chemistry.—R. P. Wylde, Manchester.
Materia Medica and Pharmacy.—T. P. Cox, Glasgow; and H. D. O'Donnell, Westminster Hospital.

PART II.

Anatomy.—G. E. Austin, Royal Free Hospital; H. D. H. W. Bund, St. Bartholomew's Hospital; H. S. Burnell-Jones, Cardiff; W. G. H. Cable, London Hospital; C. W. De Morgan, St. Mary's Hospital; C. H. J. Fagan, St. George's Hospital; F. C. M. Gabites, Edinburgh; J. W. Rollings, University College Hospital; B. Sutcliffe, Leeds; and R. M. Wingent, Guy's Hospital.
Physiology.—G. E. Austin, Royal Free Hospital; J. M. Burke, Cork and Middlesex Hospital; C. W. De Morgan, St. Mary's Hospital; C. H. J. Fagan, St. George's Hospital; G. W. Hassall, Birmingham; H. T. Roberts, St. Mary's Hospital; E. F. Skinner, Cambridge; and B. Sutcliffe, Leeds.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—At a recent meeting of the Liverpool School of Tropical Medicine, at which Sir Alfred Jones, K.C.M.G., the chairman, presided, Major Ronald Ross, C.B., F.R.S., was heartily congratulated on the high distinction that he had attained by winning the Nobel Prize. It was announced that since the last meeting of the committee the sum of £10,600 had been collected or promised towards the foundation of a chair of Tropical Medicine in University College, Liverpool, which had been offered to the University authorities and accepted; also that Major Ross had been unanimously elected to the Professorship, and that in future his title in connexion with the school would be "The Sir Alfred Jones Professor of Tropical Medicine." The Walter Myers Lectureship in Tropical Medicine having become vacant Dr. J. W. W. Stephens, who recently joined the staff of the school, was unanimously elected to fill that position. Dr. Stephens was until recently a member of the

Commission of the Royal Society on Malaria and has been closely identified with research in tropical medicine A letter was read which had been received by the chairman from Lord Lansdowne offering his congratulations to Major Ross, to the Liverpool School of Tropical Medicine, and to all those who contributed to the establishment of the institution.

MEDICAL MAGISTRATE.—Mr. John Lynn Thomas, C.B., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed on the commission of the peace for Cardiganshire, his native county.

BRISTOL DISPENSARY.—The annual meeting of the subscribers of the Bristol Dispensary was held on Jan. 9th. The medical report stated that 11,264 fresh cases had been treated during 1902, exclusive of 483 midwifery cases. The financial statement was satisfactory and showed a considerable increase in subscriptions.

CARDIFF INFIRMARY.—The annual meeting of the ladies' committee of the women's ward in the Cardiff Infirmary was held on Jan. 3rd. The statement of accounts for 1902 showed that a favourable balance of £411 remained. The number of beds maintained by the committee is now 15 The women's ward contains 16 beds and it is hoped that before long the whole of the beds will be supported by the ladies' committee.

INFRINGEMENT OF BURIAL REGULATIONS.—At the Bristol police-court on Jan. 9th a firm of undertakers were summoned for interring a stillborn child without informing the chaplain of the cemetery that there were two bodies in the coffin Evidence showed that a woman had died in childbirth and that the mother and child were placed in the same coffin. The magistrates imposed a penalty of £2 with £2 2s. costs.

DONATIONS AND BEQUESTS.—Under the will of Mr. Abraham Samuel of Louth £5000 are bequeathed to the Louth Hospital and £200 to the Lincoln County Hospital. The Jews' hospital at West Norwood benefits by a sum of £100.—Messrs. G. W. and Charles Crompton have subscribed £1000 for the endowment of a bed in the Derbyshire Royal Infirmary in memory of their late brother, Mr. E. A. Crompton, of Windley Hall, Derby.

THE LEAGUE OF MERCY.—The honorary secretaries of the League of Mercy have received from the Prince of Wales, Grand President of the League, and also President of King Edward's Hospital Fund, a letter conveying to the officials and members of the League his thanks for the sum of £8000 handed over by them to King Edward's Hospital Fund. This substantial contribution is an increase of £1000 on the amount received last year.

THE London Association for the Prevention of Premature Burial has now appointed a medical secretary—viz., Dr. J. Stenson Hooker—having come to the conclusion that this step would add more weight when the various matters dealt with by the association are brought before the medical profession and Parliament. The offices of the association are at 44, Gloucester-place, Portman-square, W. Annual subscribers of £1 1s. are entitled to copies of all pamphlets and to death verification. The minimum subscription is 5s. per annum.

FOLKESTONE MEDICAL SOCIETY.—The annual meeting of this society was held on Jan. 9th at the house of the President, Dr. T. Eastes. 20 members were present, Dr. W. J Tyson being in the chair in the unavoidable absence of the President. The following officers were elected for 1903:—President (re-elected): Dr. Eastes. Vice-Presidents: Dr. Hackney and Dr. Tyson. Committee of Management: Mr. Gilbert, Mr. Gore, Mr. Read, Mr. Murdoch, and Dr. Sworder. Library Committee: Mr. Madden, Mr. Livington, and Dr. A. Gordon Wilson. Honorary secretary and treasurer: Dr. Calverley.

"FREEING ANIMALS FROM PARASITES."—An American inventor has patented a method of freeing animals from parasites. The process consists in completely immersing the animal in a bath and passing an alternating electric current of substantially low voltage through the animal and the parasite while so immersed. The nature of the fluid in the bath is not stated. The illustration shows a cow totally submerged in a tank of fluid. Electrodes are attached to the cow but there does not seem to be any provision for respiration or any means for bringing the animal's head to the surface of the fluid. Full particulars are given in the *Official Gazette* of the United States Patent Office, published on Dec. 23rd, 1902.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, Ruskin House, 156, Charing Cross-road, W.C.

Ruskin on Pictures. A Collection of Criticisms by John Ruskin not heretofore reprinted and now re-edited and re-arranged. Vol. ii.—Academy Notes: Notes on Prout and Hunt. Price 7s. 6d. net.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, W.C.

The Prize Essay on the Erection of a Sanatorium for the Treatment of Tuberculosis in England. Together with a Preface by the Chairman of His Majesty's Advisory Committee, a number of Appendices, Illustrative Plans, and a Bibliography. By Arthur Latham, M.A., M.D. Oxon., M.A. Cantab., in association with A. William West, Architect, Honorary Deputy Treasurer of St. George's Hospital. Price 5s.

Constipation. By G. Sherman Bigg, F.R.C.S. Edin. Price 2s. 6d. net.

CHURCHILL, J. & A., 7, Great Marlborough-street, W.

Guy's Hospital Reports. Edited by J. H. Bryant, M.D., and F. J. Steward, M.S. Vol. lvii., being Vol. xiii. of the Third Series. Price to subscribers, 6s.; to non-subscribers, 10s 6d.

Transactions of the Otological Society of the United Kingdom. Vol. iii. Third Session, 1901-1902. With list of Officers, Members, &c. Edited by Arthur H. Cheatle, F.R.C.S. Price 10s. net.

The Student's Guide to Medical Diagnosis. By Samuel Fenwick, M.D., F.R.C.P., Consulting Physician to the London Hospital; and W. Soltau Fenwick, M.D., B.S. Lond., M.R.C.P., Senior Physician to the London Temperance Hospital. Price 9s. Ninth edition.

JOHN BALE, SONS, AND DANIELSSON, LIMITED, 83, Great Titchfield-street, W.

A Handbook of the Open-air Treatment and Life in an Open-air Sanatorium. By Dr Charles Reinhardt of Wallingford and Dr. David Thomson of Bournemouth. Second edition, enlarged. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

BROWNE, ADA M., L.S.A., has been appointed Anæsthetist to the New Hospital for Women, Euston-road.

GRÜNBAUM, OTTO, M.A., M.B., B.C. Cantab., M.R.C.P. Lond., D.Sc. Lond., has been appointed Medical Registrar at the London Hospital.

LYSTER, ROBERT ARTHUR, M.B., B.Ch., Birm., B.Sc. Lond., D.P.H. Birm., has been appointed Assistant to the chair of Hygiene and Public Health in the University of Birmingham.

MOON, R. O., M.D., M.R.C.P., has been appointed Physician to the Out-patient Department of the Infirmary for Consumption, Margaret-street, London, W.

PALMER, HORACE J., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer and Public Vaccinator of the Gamlingay District of the Caxton and Arrington Union, Cambridge.

STRATFORD, H. M., M.R.C.S., L.R.C.P. Lond., has been appointed Senior Resident Surgeon to the Western General Dispensary, Marylebone, N.W.

THOMAS, J. C., M.D., M.R.C.P., has been appointed Physician to the Out-patient Department of the Infirmary for Consumption, Margaret-street, London, W.

TIPPER, ERNEST H., M.R.C.S. Eng., L.R.C.P., L.S.A. Lond., has been appointed Refractionist to the Royal Eye Hospital, London.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AYR DISTRICT ASYLUM, AYR.—Two Assistant Medical Officers, unmarried. Salary £150 and £120, with board, lodging, laundry, and attendance.

BIRKENHEAD BOROUGH HOSPITAL.—Senior Resident Male House Surgeon. Salary £100 per annum, with board.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £150 per annum.

BOLTON INFIRMARY AND DISPENSARY.—Senior and Junior House Surgeons.—Salary for the senior £130, and for the junior £100 per annum, with apartments, board, and attendance.
BRITISH LYING-IN HOSPITAL.—Physician to the Out-patients.
CHICHESTER INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.
DERBYSHIRE ROYAL INFIRMARY.—Two House Surgeons. Also House Physician. Salary in each instance £100 per annum, with apartments, board, &c. Also Assistant House Surgeon for six months. Salary at rate of £60 per annum, with apartments, board, &c.
FISHERTON ASYLUM, Salisbury.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.
GREAT YARMOUTH HOSPITAL.—House Surgeon. Salary £90 per annum, with board, lodging, and washing.
GROSVENOR HOSPITAL FOR WOMEN AND CHILDREN, Vincent-square, Westminster.—Assistant Surgeon.
HAMPSTEAD HOSPITAL.—Resident Medical Officer for six months. Salary at rate of £120 per annum, with rooms, coal, and gas.
HOLBORN UNION.—Medical Officer Salary £100 per annum.
HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.
JENNER INSTITUTE OF PREVENTIVE MEDICINE.—Studentship of the value of £150, for the purpose of Research in the Department of Pathological Chemistry.
KING'S COLLEGE HOSPITAL, London.—Senior Medical Registrar and Tutor. Also, Clinical Pathologist. Salary £250 a year.
MANCHESTER ROYAL INFIRMARY.—Resident Medical Officer, unmarried. Salary £150 per annum, with board and residence.
MOUNT VERNON HOSPITAL FOR CONSUMPTION, Hampstead.—Four Clinical Assistants.
NEW HOSPITAL FOR WOMEN.—Pathologist (female). Also Anæsthetist.
NORTH RIDING ASYLUM, Clifton, York.—Senior Assistant Medical Officer, unmarried. Salary £150, rising to £200, with apartments, board, washing, and attendance.
PRESTON, LANCASHIRE, COUNTY ASYLUM, Whittingham.—Assistant Medical Officer, unmarried. Initial salary £150, with apartments, board, washing, and attendance.
POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.
REDHILL, SURREY, EARLSWOOD ASYLUM.—Two Assistant Medical Officers, unmarried. Salary of the senior £160, rising to £200; of the junior £130, rising to £150, with apartments, board, and washing in each case.
ROCHESTER, SAINT BARTHOLOMEW'S HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, lodging, washing, firing, and light.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Examiner in Dental Surgery
ROYAL GENERAL DISPENSARY, 25 and 26, Bartholomew-close, E.C.—Physician.
ROYAL HANTS COUNTY HOSPITAL, Winchester.—House Physician, unmarried. Salary £85 per annum, rising to £75, with board, residence, &c.
ROYAL ISLE OF WIGHT COUNTY HOSPITAL, Ryde.—Resident House Surgeon. Salary £90.
ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS EYE HOSPITAL), City-road, E.C.—Junior House Surgeon, also Third House Surgeon. Salary £75 and £50 respectively, with board and residence.
ROYAL VICTORIA HOSPITAL, Dover.—House Surgeon, unmarried. Salary £100 a year, increasing, with board, lodging, and washing.
SALISBURY GENERAL INFIRMARY.—Assistant House Surgeon, unmarried. Salary at rate of £75 per annum, with apartments, board, and lodging.
ST. GEORGE'S HOSPITAL MEDICAL SCHOOL.—Lecturer on Insanity.
ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.—Superintendent. Salary £200 per annum
ST. PANCRAS AND NORTHERN DISPENSARY, 125, Euston-road.—Physician-Accoucheur.
ST. PAUL'S HOSPITAL FOR SKIN AND GENITO-URINARY DISEASES, Red Lion-square, W.C.—Honorary Assistant Surgeon.
VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Honorarium of £25, with board and lodging.

Births, Marriages, and Deaths.

BIRTHS.

CHAWNER.—On Jan. 2nd, at Hill House, Clay Cross, the wife of Alfred Chawner, L.R.C.P. Lond., M.R.C.S., of a son.
HALL.—On Jan. 7th, at Elstowe House, Itchen, Southampton, the wife of Edmund S. Hall, M.B. Lond., M.R.C.S., L.R.C.P. Lond., of a son.

MARRIAGES.

BULTEEL—HASSALL.—On Jan. 10th, at St. Alfege, Greenwich, Cecil Edward Bulteel, Indian Medical Service, to Minnie Margaret Janet, youngest daughter of the Hon. T. H. Hassall.
GORDON CRUDEN.—On Jan. 8th, at St. Mary Abbot's, Kensington, William Gordon, M.D. Lond., M.R.C.P. Lond., to Dora Mary, elder daughter of Major Cruden.
MORRIS—CULLUM.—On Jan. 6th, at Durban, Natal, Captain J. I. Morris, R.A.M.C., to Alice, second daughter of J. E. Cullum, F.R.Met.Soc., the Valencia Observatory.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE BRITISH VIAVI COMPANY.

WE have received from a correspondent two abominable dirty little pamphlets issued by that coöperation of quacks which calls itself the British Viavi Company. We have on sundry previous occasions expressed our opinion of these quacks, notably in THE LANCET of March 10th, 1900 (p. 742). There we commented upon certain facts which came out at an inquest held upon Feb. 25th, 1900, by the coroner for East Sussex upon the body of a woman who had died while under treatment by the Viavi system. The jury handed in the following verdict: "We wish to return a verdict of 'Death from natural causes,' we also think that the life of the deceased might have been prolonged had she been placed under properly qualified medical treatment, and from the evidence brought before us we consider the Viavi company a fraud." So do we. In another case heard before His Honour Judge Parry in the Manchester county court on May 17th, 1901, the Viavi Company had to pay £50, with all costs, for breach of contract—i.e., for failing to cure. Judge Parry remarked that it was a peculiarly wicked thing to take money out of people who were suffering from some ailment. He regretted that there should be people going about selling worthless remedies to poor women who knew nothing about their physical condition and thereby making 50 per cent. profit. In our opinion the company is composed of persons trading upon ignorance and appealing mainly to those who are always thinking about the sexual organs, but it also professes to cure burns, lumbago, "cross rupture," neuralgia, gall-stones, and, in addition, a delightfully comprehensive disease called "internal trouble." The company issues a book of instructions called "Viavi Hygiene, by Hartland Law, M.D., and H. E. Law, F.C.S." Of what university Hartland Law may be M.D. we do not know, but his name is not on the current Medical Register. Neither does the name of H. E. Law, F.C.S., appear among the list of Fellows of the Chemical Society. We cannot but think that it is time that the legislature stepped in to prevent the wholesale mischief which is daily and hourly caused by companies of quacks and by vendors of patent medicines. If they cannot be prosecuted for fraud they should at least be made to pay for a licence. As we have said upon previous occasions no one may sell either tobacco or spirits without a licence and the licence implies no guarantee of the purity of the article sold. If a licence to be a quack were made to cost £500 per annum the trade would soon languish.

THE DESECRATION OF THE AMERICAN FLAG.

WE have received a copy of a strongly-worded pamphlet concerning the degraded uses to which the law of the United States permits their national emblem to be put. We sympathise with the writers and agree that it is a matter of national importance that the national colours should be treated with respect, but legislation ought not to be necessary to enforce so obvious a sentiment as affectionate regard for the flag. But certainly the citizens of the great republic are not very delicate in their feelings on the matter. The writers point out a circumstance with which we are quite familiar in this office that miniature reproductions of the American flag are freely used as wrappers for itch ointments, pile remedies, and other undignified nostrums. The following use of the flag, a description of which we quote from the pamphlet, is new to us: "Since the birth of the American flag no more basely degrading insult has ever been offered to our national emblem than the suggestion of Speaker Henderson that the flag be used as a wrapper for American hams to the end of better advertising the hind-quarters of American hogs to the people of the United States and foreign countries." As a matter of fact, it is a nobler fate for bunting to enswathe a ham than a remedy for leucorrhœa; but we can quite understand that many good American citizens think that both uses are degrading.

MEDICAL MISSIONARY WORK.

To the Editors of THE LANCET.

SIRS,—If your correspondent "E. B.," in THE LANCET of Jan. 10th, p. 144, will write to me I may be able to help him to obtain the information which he seeks.—I am, Sirs, yours faithfully,

JAMES CHEESE, L.R.C.P. Lond., M.R.C.S. Eng.,
Honorary Mission Secretary, the Guild of St. Luke.

58, Cornwall-gardens, South Kensington, S.W., Jan. 10th, 1903.

THE "GEM" PURE WATER STILL.

THIS handy little apparatus for domestic purposes is quite simple in construction and in action. It consists practically of three parts, a boiling chamber, a steam space immediately above, and over this a compartment at the top which contains cold water. The apparatus may be placed on a gas or oil stove or on the kitchen range. On the water below boiling steam escapes and impinges against the cold water container at the top. This container is shaped like a funnel upside down so that the water condensed on the sides of the funnel trickles into a circular

channel just beneath from which the distilled water may be drawn off by means of a tap. As long as there is cold water in the upper container and water being boiled in the lower container the process of distillation steadily proceeds. We have used the apparatus with success and have found that the distilled water is free from mineral impurities. We further ascertained that the distilled water was free from metallic contaminations. Of course, the water so obtained is sterilised. The apparatus in very handy and, consequently, would be of great service when any suspicion of the purity of the ordinary drinking supply is entertained. The still we examined was sent to us by the "Gem" Supplies Co., Limited, of 121, Newgate-street, London, E.C.

THE EUTHERMIC COVERLET.

WE have received a specimen coverlet of the above designation lined with material known as "pinool," which in appearance resembles the wood-fibre used for packing purposes. We have submitted the material to certain tests and have found it to be decidedly non-conducting, while it is porous and light. Further, it possesses another quality desirable in the lining material of a coverlet—it is elastic. Under pressure the fibre is readily compressed and on withdrawing the pressure it returns to its original bulk. The fibre is straw-coloured and we found that on extraction with ether a green, oily residue was obtained which gave off an aromatic smell resembling that of freshly-sawn pine wood. The material is said to be composed of "a graded combination of vegetable fibres of which pine wood is the basis." It seems well adapted for the purpose of lining a coverlet, is comfortable to the touch, and keeps the bed warm. Besides it is a wholesome material with a faint and not unpleasing aromatic odour. Unlike many materials for the purpose it does not readily harbour dust while it may easily be cleaned or replaced. The specimen coverlet we examined was sent to us by the Sanitary Economic Association, Limited, of Station-road, Gloucester, and the material was designed by Dr. Francis Bond of that city.

WANTED—TRANSLATION WORK.

DOES any member of the medical profession require to have his book translated into German? It is possible that a medical publisher may require the services that are offered below by a correspondent who writes as follows: "After having practised as a physician in Berlin for many years I am now living in England, having retired from the practice of my profession. I wish to use my leisure in translating some new and important English medical work into German." We shall be happy to forward to our correspondent any communications that may reach us, which can be addressed either to us or to "Translator."

CONSUMPTION SANATORIUM.

To the Editors of THE LANCET.

SIRS,—In reply to the inquiry of "R. L. G.," which appears in THE LANCET of Jan. 3rd, p. 78, I beg to state that a limited number of beds are set apart in this hospital for "paying patients" at the following rates weekly—viz., 30*s.* for men and 25*s.* for women. Application for admission must be made on the prescribed printed form, which I shall be happy to send to any person requiring one; and as the hospital has been founded for the treatment only of cases in the incipient or early stages of the disease, patients are, before being admitted, required to attend here for medical examination as to their suitability.

I may add that "ordinary" patients are admitted at the minimum rate of 7*s.* weekly. I am, Sirs, yours faithfully,

JOHN R. ORPEN,
Honorary Secretary, National Hospital for Consumption for Ireland.

5, Leinster-street, Dublin, Jan. 5th, 1903.

To the Editors of THE LANCET.

SIRS,—Replying to "R. L. G." in THE LANCET of Jan. 3rd, p. 78, he might apply to Dr. E. L. Colebrook, Maitland Cottage, Peppard Common, Oxon. I am, Sirs, yours faithfully,

St. Leonards-on-Sea, Jan. 9th, 1903. J. W. RAWSON.

"ASEPTIC" TEMPERATURE-CHART HOLDER.

A SPECIMEN of the chart holders which Messrs. Maw, Son, and Sons, of Aldersgate-street, London, E.C., have made at the direction of Dr. Marcus M. Bowlan, medical superintendent, St. George-in-the-East Infirmary, London, E., and which are used in the lying-in ward at that infirmary, has been sent to us for inspection. It consists of a sheet of aluminium with slits near each angle to receive the corners of the chart and two holes at the top for suspension on the wall with silk or silver wire. Dr. Bowlan states that they are readily kept bright, and have the additional merit of being easily sterilised by boiling in plain water.

WE shall be obliged if the correspondent who inquired concerning the Nobel prizes will kindly communicate his address which has been mislaid.

M.B. Cantab.—Our correspondent's contribution to the controversy arrived at a time when our columns were very overcrowded. He will see, however, that we in no way suggest that the reform in the preliminary examinations of the University of London should mean that the standard should be lowered. It is hoped that the student's path will be made smoother by relieving him of a multiplicity of examinations and the necessity of obtaining a superficial knowledge of subjects which he will never pursue as genuine studies. It is not proposed that the degrees of the University shall be cheaper.

J. R. T.—(a) The M.B. degree of the University of Sydney is registrable in the Colonial List. (b) There are many holders of foreign or colonial degrees practising medicine in this country, but their place on the Register is due to the fact that they possess British registrable titles. Complete information on the point will be found in the tables prefixed to the Medical Register. (c) As a rule the tests of one examining body are not accepted by other examining bodies; but in any particular case it might be well to make inquiries from the Medical Registrar.

M.B., B.C.—Our opinion is much the same as our correspondent's. He will find in our columns and in the publication, "The Battle of the Clubs," frequent examples of the system which he mentions and which he rightly reprobates. A recent decision of the General Medical Council strongly condemns the practice of house-to-house touting. No medical man should work for a club employing this method, and still less should any medical man employ it himself.

H. H. B.—We are obliged to our correspondent for forwarding the powder, an examination of which will be made, and, if thought necessary, the results will be published in our columns.

quator.—"Diseases of the Lungs," by Dr. Kingston Fowler and Mr Rickman Godlee.

ERRATUM.—The publisher of "Practical Physiology," by Dr. A. P. Beddard and other writers, reviewed in THE LANCET of Dec. 20th, should have been stated as Mr. Edward Arnold, not Edwin Arnold.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.) London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (21st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M).

THURSDAY (22nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (24th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (20th).—CHELSEA CLINICAL SOCIETY (Jenner Institute of Preventive Medicine, Chelsea gardens, Grosvenor-road, S.W.).—8.30 P.M. Discussion on the President's Opening Address on Child-bearing in Chronic Heart Disease.

PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Bacteriological Section. Dr. Klein: A New Pathogenic Diphtheroid Bacillus.—Mr. A. Foulerton and Dr. V. Bonney: A Diphtheroid Bacillus isolated from Two Cases of Puerperal Fever.—Dr. L. Barlow: A Higher Mould Fungus isolated from a Case of Multiple Granulamatous Tumours.—Mr. A. Foulerton and Dr. A. M. Kellas: The Action on Bacteria of Currents or Discharges of High Tension and Rapid Frequency.—Dr. C. G. Seligmann: The

Inhibitory Effect on Bacterial Growth of the Viscid Exudate from Tabetic Joints, &c.—Dr. Klein: Demonstration of Specimens from Plague in Rats.

WEDNESDAY (21st).—ROYAL METEOROLOGICAL SOCIETY (Institution of Civil Engineers, Great George-street, S.W.).—7.30 P.M. Ordinary Meeting. 7.45 P.M. Report of the Council. Election of Officers and Council for the ensuing year. Address:—Mr. W. H. Dines (President): The Method of Kite-Flying from a Steam Vessel and Meteorological Observations obtained thereby off the West Coast of Scotland.

ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. The President will deliver his Annual Address.

THURSDAY (22nd).—NEUROLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Annual Meeting. Dr. J. N. Langley: The Autonomic Nervous System (Presidential Address).

FRIDAY (23rd).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Exhibition of Clinical Cases followed by Discussion. Patients will be in attendance from 8 P.M. to 9 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (19th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. A. Whitfield: Clinique. (Skin.) 5.15 P.M. Dr. K. Grube: Hydro-therapeutics and Balneo-therapeutics.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. A. Saunders: Broncho-pneumonia and its Treatment in Children.

TUESDAY (20th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Sir W. H. Broadbent: Clinique. (Medical.) 5.15 P.M. Dr. P. Stewart: Cranial Nerve Paralysis.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. A. Baldwin: Treatment of Some Injuries and Emergencies.

UNIVERSITY OF LONDON (Physiological Laboratory).—5 P.M. Dr. W. D. Halliburton: On the Chemistry of Muscle and Nerve. (Lecture on Advanced Physiology.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. R. Russell: Anatomy of the Spinal Cord.

WEDNESDAY (21st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Berry: Clinique. (Surgical.) 5.15 P.M. Mr. H. Pinch: Inflammation and Repair.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. McAdam Eccles: Surgical Anatomy.

THURSDAY (22nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. C. B. Keetley: Clinique. (Surgical.) 5.15 P.M. Dr. W. S. Colman: Infantile Scurvy.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Paget: Surgical Cases.

UNIVERSITY OF LONDON (Physiological Laboratory).—5 P.M. Dr. T. G. Brodie: On the Circulation. (Lecture on Advanced Physiology.)

CHARING CROSS HOSPITAL.—4 P.M. Dr. W. Hunter: Demonstration of Pathological Cases. (Post-Graduate Course.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Baumann: Pathological Demonstration.

FRIDAY (23rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. H. Tilley: Clinique. (Throat.) 5.15 P.M. Dr. H. W. G. MacLeod: House Ventilation and Drainage.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Epilepsy.

UNIVERSITY OF LONDON (Physiological Laboratory).—5 P.M. Dr. A. D. Waller: On the Action of Anæsthetics and Narcotics. (Lecture on Advanced Physiology).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Sir V. Horsley: Surgery of the Nervous System.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1902, which was completed with the issue of Dec. 27th, and the Title-page to the Volume, were given in THE LANCET of Jan. 3rd.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1902 are now ready. Bound in cloth, gilt lettered, price 1*s*., carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s*., by post 2*s*. 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

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Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, MR. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 15th, 1903.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
Jan. 9	29·42	SSW	0·02	68	54	41	45	47	Cloudy
,, 10	29·35	S.W	0·01	70	50	47	46	48	Cloudy
,, 11	29·67	N.E.	...	57	46	34	39	42	Cloudy
,, 12	38·11	N.E.	...	55	38	32	32	33	Cloudy
,, 13	30·39	N.E.	...	50	38	28	Fzn.	30	Cloudy
,, 14	30·55	E.	...	55	34	30	Fzn.	31	Cloudy
,, 15	30·45	E.	...	54	35	28	Fzn.	29	Cloudy

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